U.S. Department of the Interior
Bureau of Land Management

FOUR RIVERS FIELD OFFICE

Proposed Resource Management Plan and Final Environmental Impact Statement
Four Rivers Field Office, Boise District, Idaho (Volume 1)

February 2020

Estimated Costs to Develop: $3,520,000

BLM Mission

The Bureau of Land Management's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, energy production, and by conserving natural, historical, cultural, and other resources on public lands.

Four Rivers Field Office Proposed Resource Management Plan and Final Environmental Impact Statement

February 2020

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United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Idaho State Office
1387 South Vinnell Way
Boise, Idaho 83709-1657

In reply refer to:
1610(910)

Dear Reader:
Enclosed is the Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) for the Idaho Bureau of Land Management (BLM) Four Rivers Field Office. The BLM prepared this document in consultation with cooperating agencies, considering public comments received during this planning effort. The Proposed RMP provides a framework for the future management direction and appropriate use of approximately 800,000 acres of public lands managed by the Four Rivers Field Office within an 8-million-acre planning area. There are 10 counties in the Planning Area: Ada, Adams, Boise, Canyon, Elmore, Gem, Owyhee, Payette, Valley, and Washington. When approved, this RMP will guide the management of public lands administered by the Four Rivers Field Office into the future and will replace the 1988 Cascade RMP, the 1983 Kuna Management Framework Plan, and the portion of the 1987 Jarbidge RMP covering lands within the Four Rivers Field Office.

This Proposed RMP/Final EIS has been developed in accordance with the National Environmental Policy Act of 1969, as amended. The Proposed RMP is largely based on Alternative D, the preferred alternative in the Draft RMP/Draft EIS, which was released on May 24, 2019. The Proposed RMP/Final EIS contains the Proposed Plan, a summary of changes made between the Draft RMP/Draft EIS and Proposed RMP/Final EIS, impacts of the Proposed Plan, a summary of the written and verbal comments received during the public review period for the Draft RMP/Draft EIS, and responses to the comments. The Proposed Plan retains three Areas of Critical Environmental Concern (ACECs) and designates one Backcountry Conservation Area (BCA).

Pursuant to the BLM's planning regulations at 43 CFR 1610.5-2, any person who participated in the planning process for this Proposed RMP and has an interest which is, or may be, adversely affected by the planning decisions may protest approval of the planning decisions within thirty (30) days from the date the Environmental Protection Agency publishes the Notice of Availability of the FEIS in the Federal Register.

The regulations specify the required elements of your protest. Take care to document all relevant facts. As much as possible, reference or cite the planning documents or available planning records (e.g. meeting minutes or summaries, correspondence, etc.).

Instructions for filing a protest with the Director of the BLM regarding the Proposed RMP and Final EIS may be found online at https://www.blm.gov/programs/planning-and-nepa/public-participation/filing-a-plan-protest and at 43 CFR 1610.5-2. All protests must be in writing and mailed to the appropriate address, as set forth below, or submitted electronically through the BLM ePlanning project website. Protests submitted electronically by any means other than the ePlanning project website protest section will be invalid unless a protest is also submitted in hard copy. Protests submitted by fax will be invalid unless also submitted either through ePlanning project website protest section or in hard copy.

All protests submitted in writing must be mailed to one of the following addresses:

Regular Mail:	Overnight Delivery:
Director (210)	Director (210)
Attn: Protest Coordinator	Attn: Protest Coordinator
P.O. Box 71383	20 M Street SE, Room 2134LM
Washington, D.C. 20024-1383	Washington, D.C. 20003

Before including your address, phone number, email address, or other personal identifying information in your protest, be advised that your entire protest – including your personal identifying information – may be made publicly available at any time. While you can ask us in your protest to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

The BLM Director will make every attempt to promptly render a decision on each protest. The decision will be in writing and will be sent to the protesting party by certified mail, return receipt requested. The decision of the BLM Director shall be the final decision of the Department of the Interior on each protest. Responses to protest issues will be compiled and formalized in a Director's Protest Resolution Report made available following issuance of the decisions.

Upon resolution of all land use plan protests, the BLM will issue an Approved RMP and Record of Decision (ROD). The Approved RMP and ROD will be made available electronically to all who participated in the planning process and will be available on the BLM website at http://go.usa.gov/xnsn6 (case-sensitive).

Unlike land use planning decisions, implementation decisions included in this Proposed RMP/Final EIS are not subject to protest under the BLM planning regulations, but are subject to an administrative review process, through appeals to the Office of Hearings and Appeals (OHA), Interior Board of Land Appeals (IBLA) pursuant to 43 CFR, Part 4 Subpart E. Implementation decisions generally constitute the BLM's final approval allowing on-the-ground actions to proceed. Where implementation decisions are made as part of the land use planning process, they are still subject to the appeals process or other administrative review as prescribed by specific resource program regulations once the BLM resolves the protests to land use planning decisions and issues an Approved RMP and ROD. The Approved RMP and ROD will therefore identify the implementation decisions made in the plan that may be appealed to the Office of Hearing and Appeals.

Thank you for your interest in the Four Rivers RMP. We appreciate the information and suggestions you contribute to the planning process. For additional information or clarification regarding this document or the planning process, please contact Brent Ralston, Field Manager at: (208) 384–3300.

Sincerely,

John F. Ruhs
State Director

Protest Regulations

[CITE: 43CFR1610.5-2]

TITLE 43--PUBLIC LANDS: INTERIOR
CHAPTER II--BUREAU OF LAND MANAGEMENT, DEPARTMENT OF THE INTERIOR
PART 1600--PLANNING, PROGRAMMING, BUDGETING--Table of Contents
Subpart 1610--Resource Management Planning
Sec. 1610.5-2 Protest procedures.

(a) Any person who participated in the planning process and has an interest which is or may be adversely affected by the approval or amendment of a resource management plan may protest such approval or amendment. A protest may raise only those issues which were submitted for the record during the planning process.

(1) The protest shall be in writing and shall be filed with the Director. The protest shall be filed within 30 days of the date the Environmental Protection Agency published the notice of receipt of the final environmental impact statement containing the plan or amendment in the Federal Register. For an amendment not requiring the preparation of an environmental impact statement, the protest shall be filed within 30 days of the publication of the notice of its effective date.

(2) The protest shall contain:

(i) The name, mailing address, telephone number and interest of the person filing the protest;
(ii) A statement of the issue or issues being protested;
(iii) A statement of the part or parts of the plan or amendment being protested;
(iv) A copy of all documents addressing the issue or issues that were submitted during the planning process by the protesting party or an indication of the date the issue or issues were discussed for the record; and
(v) A concise statement explaining why the State Director's decision is believed to be wrong.

(3) The Director shall promptly render a decision on the protest.

(b) The decision shall be in writing and shall set forth the reasons for the decision. The decision shall be sent to the protesting party by certified mail, return receipt requested. The decision of the Director shall be the final decision of the Department of the Interior.

Four Rivers Field Office

Proposed Resource Management Plan and

Final Environmental Impact Statement

Responsible Agency: United States Department of the Interior
Bureau of Land Management

Type of Action: Administrative (X) Legislative ( )

Document Status: Draft ( ) Final (X)

Abstract: This Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (Final EIS) has been prepared by the United States Department of the Interior (DOI), Bureau of Land Management (BLM) with input from cooperating agencies. The Proposed RMP/Final EIS describes and discusses the proposed action for managing 783,160 acres of surface acres in the Four Rivers Field Office (FRFO) in southwestern Idaho and incorporates the alternatives analyzed in the Draft RMP/Draft EIS by reference. The BLM administers public lands in the Planning Area according to three existing plans. The existing plans have been updated and amended since they were originally approved. This Proposed RMP/Final EIS describes management actions to develop a comprehensive framework for BLM-administered lands in the Four Rivers Planning Area and analyzes the future use and management direction of the many natural and cultural resources found in the Planning Area over the next 20 years. The Proposed RMP emphasizes managing public lands to promote economic development while conserving natural resources and represents a mixed management approach recognizing the diversity of needs and issues throughout the planning area. Planning issues addressed include management of a scattered BLM-administered lands base, vegetation resources, fire management, Threatened and Endangered species management, livestock grazing, access, recreation, socioeconomics, and lands and realty. The planning effort also considers lands with wilderness characteristics, wild and scenic rivers, and Areas of Critical Environmental Concern (ACECs).

Protest Period: Protests must be postmarked or received no later than 30 days after the publication of the US Environmental Protection Agency Notice of Availability in the Federal Register. Please refer to the Dear Reader Letter preceding this abstract for additional information on how to protest.

For further information contact:

Bureau of Land Management
Four Rivers Field Office
3948 Development Avenue
Boise, Idaho 83705
(208) 384-3300
Email: Four_Rivers_RMP@blm.gov
Website: http://go.usa.gov/xnsn6

Table of Contents Volume 1:

Maps:

Table of Contents Volume 2:

Appendices

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EXECUTIVE SUMMARY

Introduction

The Bureau of Land Management (BLM), Boise District, Four Rivers Field Office (FRFO) has prepared this Proposed Resource Management Plan (RMP)/Final Environmental Impact Statement (EIS) to address public lands within the Planning Area. The Proposed RMP/Final EIS describes and analyzes management alternatives for the public lands and resources managed by the FRFO and provides BLM with a comprehensive framework for administering public lands. This document also analyzes the future use and management direction of the many natural and cultural resources found in the Planning Area over the next 20 years and beyond. The Proposed RMP/Final EIS will inform the public about potential management options and provide BLM with sufficient information to make informed decisions concerning the FRFO Planning Area.

Purpose and Need

The BLM identified the need, or requirement, to revise the existing plans through formal evaluations, considering the Analysis of the Management Situation (AMS) (BLM 2008b), examining issues identified during the public involvement process known as scoping, and collaborating with local, state, and federal agencies. The purpose of this RMP revision is to update management guidance from the previous plans, respond to new and emerging issues and concerns, and to guide management of public lands in accordance with the Federal Land Policy and Management Act (FLPMA) and the principles of multiple use and sustained yield. The RMP will provide goals, objectives, land use allocations, and management direction to maintain, improve, or restore resource conditions, and to provide for the long-term benefits to the public, including economic needs of local communities.

Public Involvement

The scoping process is intended to provide an opportunity for the public, Tribes, government agencies, and interested groups to participate in identifying the issues to be addressed in the planning process. The Notice of Intent (NOI) to prepare the Four Rivers RMP and EIS, which served as the beginning of BLM's formal scoping process, was published in the *Federal Register* on April 3, 2008. Public involvement has included scoping meetings, concept workshop meetings, Interdisciplinary Team meetings, newsletters, press releases, and advertisements in local newspapers.

Public participation was ongoing throughout the planning process. The Proposed RMP/Final EIS considered all substantive oral and written comments received during the 120-day public comment period for the Draft RMP/Draft EIS.

Pursuant to BLM's planning regulations at 43 CFR 1610.5-2, any person who participated in the planning process has the opportunity to protest the content of the Proposed RMP and Final EIS during the specified 30-day protest period following the release of the Proposed RMP and Final EIS. The Record of Decision (ROD) will be issued by the BLM after the release of the Proposed RMP and Final EIS, the Governor's Consistency Review, and protest resolution.

Planning Issues

During the scoping period, planning issues that reflected fundamental problems to be addressed in the RMP and alternative development were identified. These issues are reflected in three overarching themes regarding BLM-administered lands within the FRFO.

- Management of the Scattered BLM-administered Lands Base
- Balancing Increasing Public Demand with Conservation of Fragile Resources
- Balancing Resource Use (including energy development) with other uses of BLM Administered Lands

Proposed Plan and Draft Alternatives

This Proposed RMP/FEIS evaluates goals, objectives, and management actions BLM has determined represent the suite of management guidance that would best meet the purpose and need of the planning revision. The Proposed Plan is largely based on Preferred Alternative (Alternative D) presented in the Draft RMP/Draft EIS. The Proposed RMP/Final EIS is abbreviated and incorporates and includes by reference the alternatives presented in the Draft RMP/Draft EIS; only the Proposed Plan is displayed in this document. The current management alternative or No Action Alternative incorporates consistent and valid management practices from the existing land use plans.

The Draft RMP/Draft EIS developed four alternatives to address the planning issues described above. Management changes would be most apparent in recreation management, fuels management, and minerals management. The Draft RMP/Draft EIS presented the specific details of alternatives relating to resources and resource uses in Table 2.1. This Proposed RMP/Final EIS incorporates the analysis of the No Action alternative, Alternative B, Alternative C, and Alternative D by reference, to direct the reader to those actions that are carried forward in the Proposed Plan.

No Action Alternative

Council on Environmental Quality regulations at 40 CFR 1502.14(d) require an EIS to analyze the "No Action" alternative. No Action is defined as a "no change" from current management direction. The existing designations, allowable uses, and management actions contained in the Kuna MFP and Jarbidge and Cascade RMPs, as amended, would continue to be implemented in their respective areas, unless changed by laws, regulations, or policies. Land tenure adjustments would only occur on those areas identified as available for disposal in the Cascade and Jarbidge RMPs, as amended, or Kuna MFP. It is a continuation of current public use, resource protection, and conservation prescriptions without change. It neither sets desired outcomes for resource management or most uses, nor addresses new issues unforeseen or nonexistent when the original RMPs and MFP were prepared. Under Alternative A, oil and gas leasing of Federal Minerals would not occur and lands available for disposal would include only those lands identified in previous plans. Potential impacts to sensitive natural and cultural resources would be high owing to limited restrictions on surface disturbing and disruptive activities. There would continue to be a moderate potential for wildfire impacts to values at risk due to moderate limitations on fuels treatments. Alternative A would see potential for up to 497 jobs annually.

Proposed Plan

The Proposed Plan emphasizes managing public lands to promote long-term, sustainable economic development by sustaining the productivity of natural resources. The Proposed Plan recognizes the diversity of needs and issues throughout the planning area. Concerns about wildland fire, big game winter range, migration corridors, and connectivity would result in sustainable management for plants and wildlife. The Proposed Plan would provide for responsible development of leasable mineral resources and conservation of other natural resources on over 757,000 acres and proposed closures on just over 23,000 acres of BLM lands. Additional restrictions include precluding salable mineral extraction on over 48,000 acres and closing 30,000 acres to motorized vehicle use. Up to

3,700 acres of BLM administered lands would be available for disposal. All lands in the planning area would be available to livestock grazing, resulting in up to 106,168 available Animal Unit Months (AUMs) with an additional 9,635 AUMs available on the permit to be activated in pastures dominated by invasive annual grasses. Approximately 96,500 acres of BLM administered lands would see some level of management focus for natural and cultural resources through special designations Areas of Critical Environmental Concern (ACECs), Wilderness Study Areas (WSAs), Wild and Scenic Rivers (WSR), or National Historic Trails (NHT)). The Proposed RMP would provide for an additional 221 annual jobs compared with Alternative A because of potential for oil and gas exploration and production and increased AUMs.

Alternative B

Alternative B emphasized protecting natural resource values from potential negative impacts of population growth and increased use and would use more protective measures for plants and wildlife. While some areas would still emphasize recreation and community development uses, the primary emphases were for conservation, and reduction of habitat fragmentation and resource degradation. Land disposal/acquisition criteria focused on natural resource protection and maintenance of migratory corridors. Alternative B would have restricted development of leasable mineral resources through proposed closures or no surface occupancy restrictions on over 480,000 acres of BLM lands, precluded potential renewable energy development on over 467,000 acres, precluded salable mineral extraction on nearly 463,000 acres and recommended over 290,000 acres for withdrawal from operation of the public land laws, including locatable mineral entry. Livestock grazing would have been reduced through closing 122,700 acres to grazing, reducing the total number of available AUMs by up to 12,000. Over 191,000 acres of BLM administered lands would have seen some level of protection for natural and cultural resources through special designations (ACECs, WSA, WSR, Lands with Wilderness Characteristics (LWC), NHT, or Watchable Wildlife) and over 43,000 acres would have been closed to off-highway vehicles. This alternative would have seen the highest potential for wildfire impacts to values at risk due to the greatest limitation on fuels treatments. Alternative B would have provided fewer opportunities for job creation as a result of leasable mineral development and livestock grazing restrictions.

Alternative C

Under Alternative C, the BLM would have helped accommodate economic and population growth. This alternative emphasized: (1) designating lands as "available" for disposal for local community expansion, (2) providing economic expansion through extractive and renewable energy resource use, and (3) providing recreational use diversity. Land disposal/acquisition criteria would have emphasized using local community plans to achieve social and economic goals. Alternative C would have restricted development of leasable mineral resources through proposed closures or no surface occupancy restrictions on over 100,000 acres of BLM lands, precluded potential renewable energy development on up to 151,000 acres, and precluded salable mineral extraction on nearly 37,000 acres. Up to 9,700 acres of BLM administered lands would have been available for disposal or land tenure adjustment. All lands in the planning area would have been available to livestock grazing, resulting in up to 106,000 available AUMs. Approximately 78,500 acres of BLM administered lands would have protected some natural and cultural resources through special designations (ACECs, WSA, WSR, or NHT) and under 30,000 acres would have been closed to off-highway vehicles. This alternative resulted in the fewest restrictions on fuels treatments, which would in turn result in the lowest potential for wildfire impacts. Alternative C would have resulted in slightly fewer jobs created as in the Proposed Plan.

Environmental Consequences

A detailed summary of the environmental consequences projected to result from implementation of the proposed alternative is included in Table 2.2, Summary of Environmental Consequences. Context and intensity of impacts are provided through a comparison of the proposed alternative with existing conditions (as identified in Chapter 3, Affected Environment and the No Action Alternative). Chapter 4, Environmental Consequences, provides a full and complete analysis of the effects to the human environment resulting from the Proposed Plan.

Next Steps

Following publication by the BLM of a Notice of Availability of the Proposed RMP/Final EIS in the *Federal Register* and distribution of the Proposed RMP/Final EIS, there will be a 30-day protest period. In addition, a 60-day Governor's Consistency Review period runs concurrently with the first half of the protest period.

The State Director will approve the Proposed RMP/Final EIS by issuing a public Record of Decision (ROD), which is a concise document summarizing the findings and decisions brought forward in the Proposed RMP/Final EIS. However, approval shall be withheld on any portion of a plan being protested until final action has been completed on such protest. Before such approval is given, there shall be public notice and opportunity for public comment on any significant change made to the Proposed Plan.

Acronyms

Abandoned Mine Land	AML (minerals)
Acronyms	AC
Air Quality Related Values	AQRV
All-terrain Vehicle	ATV
American Indian Religious Freedom Act	AIRFA
Analysis of the Management Situation	AMS
Animal Unit Month	AUM
Application for Permit to Drill	APD
Appropriate Management Level	AML (wild horses)
Approved Resource Management Plan Amendment	ARMPA
Archaeological Resources Protection Act	ARPA
Area of Concern	AOC
Area of Critical Environmental Concern	ACEC
Aquatic Riparian Management Strategy	ARMS
Avian Power Line Interaction Committee	APLIC
Backcountry Conservation Area	BCA
Best Management Practice	BMP
Billion Cubic Feet	BCF
Biological Assessment	BA
Biologically Significant Unit	BSU
Boise District Office	BDO
Breakhorse Power	BHP
Bureau of Land Management	BLM
Bureau of Reclamation	BOR
Burned Area Emergency Response	BAER
Candidate Conservation Agreement	CCA
Candidate Conservation Agreement with Assurances	CCAA
Carbon Dioxide	CO_2
Carbon Dioxide Equivalent	CO_2 eq
Carbon Monoxide	CO
Clean Air Act	CAA
Clean Water Act	CWA
Code of Federal Regulations	CFR
Colony Forming Units	CFU
Communities at Risk	CAR
Conservation Agreement	CA
Conservation Area	CA
Conservation Objectives Team	COT
Controlled Surface Use	CSU
Cooperative Weed Management Area	CWMA
Council on Environmental Quality	CEQ
Cubic Feet Per Second	CFS
Department of the Interior	DOI
Department of Energy	DOE
Desired Future Condition	DFC
Dissolved Oxygen	DO
Draft Environmental Impact Statement	DEIS
Ecological Reference Area	ERA
Ecological Site Disruption	ESD
Element Occurrence	EO (plants)
Emergency Stabilization and Rehabilitation	ESR
Emissions Inventory	EI

Endangered Species Act	ESA
Environmental Assessment	EA
Environmental Impact Statement	EIS
Environmental Justice	EJ
Environmental Protection Agency	EPA
Essential Fish Habitat	EFH
Executive Order	EO
Executive Summary	ES
Extensive Recreation Management Area	ERMA
Federal Land Policy and Management Act of 1976	FLPMA
Federal Register	FR
Field Office	FO
Final Environmental Impact Statement	FEIS
Fire and Invasives Assessment Tool	FIAT
Fire Management Plan	FMP
Four Rivers Field Office	FRFO
Functional-at risk	FAR
General Habitat Management Areas	GHMA (greater sage-grouse)
Geographic Information System	GIS
Global Climate Models	GCMs
Greater sage-grouse	GRSG
Greenhouse Gas(es)	GHG
Habitat Assessment Framework	HAF
Hazardous Air Pollutants	HAPs
Herd Area	HA
Herd Management Area	HMA
Herd Management Plan	HMP
Horsepower	HP
Idaho Administrative Procedures Act	IDAPA
Idaho Conservation Data Center	IDCDC
Idaho Department of Environmental Quality	IDEQ
Idaho Department of Fish and Game	IDFG
Idaho Department of Lands	IDL
Idaho Department of Parks and Recreation	IDPR
Idaho Fish and Wildlife Information System	IFWIS
Idaho Native Plant Society	INPS
Idaho Natural Heritage Program	INHP
Idaho Sage-grouse Advisory Committee	ISAC
Idaho State Department of Agriculture	ISDA
Impaired Waters List of the Clean Water Act (Section 303)	303(d)
Important Habitat Management Areas	IHMA (greater sage-grouse)
Interagency Monitoring of Protected Visual Environments	IMPROVE
Interdisciplinary Team	ID Team
Intergovernmental Panel on Climate Change	IPCC
Interior Columbia Basin Ecosystem Management Project	ICBEMP
Interstate 84	I-84
Kilogram	Kg
Kilometer	Km
Known Geothermal Resource Area	KGRA
Land Use Authorization	LUA
Land and Water Conservation Fund	LWCF

Lands with Wilderness Characteristics	LWC
Management Action	MA
Management Framework Plan	MFP
Mercury Deposition Network	MDN
Memorandum of Agreement	MOA
Memorandum of Understanding	MOU
Methane	CH_4
Milligrams	Mg
Milligrams Per Liter	Mg/l
Milliliter	Ml
Multiple Indicator Monitoring	MIM
Multiple Use and Sustained Yield	MUSY
National Ambient Air Quality Standards	NAAQS
National Atmospheric Deposition Program	NADP
(Morley Nelson Snake River Birds of Prey) National Conservation Area	NCA
National Environmental Policy Act of 1969	NEPA
National Historic Preservation Act	NHPA
National Historic Trail	NHT
National Marine Fisheries Service	NMFS
National Oceanic and Atmospheric Administration	NOAA
National Recreation Trail	NRT
National Register of Historic Places	NRHP
National Wild and Scenic River	NWSR
Native American Graves Protection and Repatriation Act	NAGPRA
Natural Resources Conservation Service	NRCS
New Source Performance Standards	NSPS
Nitrous Oxide	N_2O
Nonfunctional	NF
Not Applicable	NA
Notice of Intent	NOI
Off-highway Vehicle	OHV
Off-road Vehicle	ORV
Outstandingly Remarkable Value	ORV (wilderness)
Oxides of Nitrogen	NOx
Particulate Matter	PM
Paleontological Resources Protection Act	PRPA
Planning Area	PA
Population Growth Suppression	PGS
Porcine Zona Pellucidae	PZP
Probable Fossil Yield Classification	PFYC
Potential Natural Community	PNC
Prevention of Significant Deterioration	PSD
Priority Habitat Management Areas	PHMA (greater sage-grouse)
Programmatic Environmental Impact Statement	PEIS
Proper Functioning Condition	PFC
Record of Decision	ROD
Recreation and Public Purpose (Act)	R&PP
Recreation and Visitor Services	R&VS
Recreation Management Area	RMA

Recreation Management Information System	RMIS
Recreation Opportunity Spectrum	ROS
Recreation Setting Characteristics	RSC
Required Design Features	RDF
Research Natural Area	RNA
Reserve Common Allotment	RCA
Resource Advisory Council	RAC
Resource Management Plan	RMP
Right(s)-of-Way	ROW
Risk of Contact Tool	RCT
Riparian Habitat Conservation Area	RHCA
Special Recreation Management Area	SRMA
Special Recreation Permit	SRP
Special Status Animal(s)	SSA
Special Status Plant(s)	SSP
Standards and Guidelines	S&Gs
Standard Operating Procedures	SOP
State Implementation Plan	SIP
State Historic Preservation Office	SHPO
Sulfur Dioxide	SO_2
Temporary Non-Renewable	TNR
Threatened and Endangered	T&E
Timing Limitation Stipulation	TLS
Total Maximum Daily Load	TMDL
Travel Management Area	TMA
Travel and Transportation Management Plan	TMP
United States Code	USC
United States Department of Agriculture	USDA
United States Department of the Interior	USDOI/DOI
United States Fish and Wildlife Service	USFWS
United States Forest Service	USFS
United States Geological Survey	USGS
Utility Task Vehicle	UTV
Visual Resource Inventory	VRI
Visual Resource Management	VRM
Volatile Organic Compounds	VOCs
Western Association of Fish and Wildlife Agencies	WAFWA
Wild Free-Roaming Horses and Burros Act of 1971	WFRHBA
Wild Horse and Burro	WHB
Wild and Scenic River	WSR
Wilderness Study Area	WSA
Wildland Urban Interface	WUI
Wildlife Management Area	WMA

Chapter 1 Introduction

1.1 Introduction and Background

This Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) describes and analyzes alternatives for the future management of lands and resources the Bureau of Land Management (BLM) administers in the Four Rivers Field Office (FRFO). The Planning Area (PA) is located in southwestern Idaho, extending north of the Snake River from approximately Glenns Ferry to the southeast, to the Idaho/Oregon border on the west, and to McCall on the north (Map 1-1).

A reorganization in 2001 created the Four Rivers Field Office from the Cascade Resource Area and portions of the former Bruneau, Owyhee, and Jarbidge Resource Areas. The Field Office also includes the Morley Nelson Snake River Birds of Prey National Conservation Area (NCA). The NCA is managed under a separate RMP completed in 2008 (BLM 2008c). The BLM-administered lands between the NCA's southern boundary and the Snake River, adjacent to Grand View and Bruneau, Idaho are within the Four Rivers PA and are managed consistent with the adjacent NCA lands.

The BLM administers public lands in the PA according to three existing plans the 1983 Kuna Management Framework Plan (MFP), the 1987 Jarbidge RMP, and the 1988 Cascade RMP. The existing plans have been updated and amended since they were originally approved. The BLM is preparing one EIS to address the impacts of revising these three existing plans. One Record of Decision (ROD) and Approved RMP for the Four Rivers PA will be issued and replace the existing plans at the end of the planning process.

This Proposed RMP/Final EIS describes management alternatives that develop a comprehensive management framework for BLM-administered lands in the Four Rivers PA and management alternatives (described in the Draft RMP/Draft EIS and incorporated into this document by reference). The Proposed Plan/Final EIS also analyzes the future use and management direction of the many natural and cultural resources found in the PA over the next 20 years and beyond. Management described and decisions made in the Four Rivers RMP are in accordance with administration and department priorities, BLM's administrative authority and responsibilities, and reflect issues raised by the public during the scoping process.

Decision Area

BLM manages approximately 783,160 acres of public land (both surface and mineral estate [below ground]) and an additional 392,440 acres of federal mineral estate under other non-federal surface ownership in the Four Rivers PA, excluding the NCA. These BLM-administered acres are within ten Idaho Counties: Ada, Adams, Boise, Canyon, Elmore, Gem, Owyhee, Payette, Valley, and Washington. Additionally, BLM administers mineral estate, but no surface estate, in Camas County. Approximately 83 percent of the land within the PA is managed by the U.S. Forest Service (USFS) or is privately owned, making an integrated planning effort with other agencies and the general public critical (Table 1.1). BLM-administered lands in the PA vary from small, scattered parcels to large, contiguous blocks. Collectively, BLM-administered lands (surface and mineral estate) are considered the Decision Area.

This RMP and the decisions to be made do not apply to lands managed by the U.S. Forest Service (USFS), U.S. Fish and Wildlife Service (USFWS), Bureau of Reclamation (BOR), military, private, or state-owned surface or mineral estate.

According to the U.S. Census Bureau, Idaho was the nation's fastest-growing state in 2017 (U.S. Census Bureau, 2017). This population growth follows a trend over the last decade and is expected to continue over the life of this plan. Population growth has resulted in increased demands on BLM-

administered lands for recreation and for access from adjacent private lands. In addition, there has been a substantial increase in requests for land transfers and sales to accommodate planned unit developments and other local community growth needs. While only approximately 62,080 acres of BLM-administered lands are located within Ada County, this county serves the largest population base in the PA, and the state as a whole.

Table 1.1 - Surface Land Ownership within the Planning Area

Land Ownership	Acres[1]	Percent
United States (US) Forest Service (USFS)	4,143,210	51
Private	2,575,550	32
BLM	783,160	10
State of Idaho	418,510	5
Bureau of Reclamation	100,570	1
US Fish and Wildlife	11,290	<1
Military	12,680	<1
Other	68,090	<1
Total	**8,113,060**	**100**

[1] Acreage figures throughout this document were based on available geographic information system (GIS) data at the time calculated**.**

Table 1.2 - Federal Mineral Estate within the Planning Area[2]

Mineral Estate	All Mineral Estate	Oil and Gas Only	Other Minerals[3]	Total
BLM Surface	779,350	120	1,250	780,720
Other Federal	4,091,610	0	53,000	4,144,630
Non-Federal Surface	341,460	38,970	8,800	392,450
Total	**5,212,420**	**39,090**	**63,060**	**5,317,790**

[2] Acreage values are not additive between tables 1.1 and 1.2 owing to land acquisitions where mineral rights were not acquired.

[3] Other minerals includes other types of leasable minerals (coal, non-energy leasables), locatable minerals and/or salable minerals.

1.2 Purpose and Need for the Resource Management Plan Revision

The BLM identified the need, or requirement, to revise the existing plans through conducting formal evaluations, considering the Analysis of the Management Situation (AMS) (BLM 2008b), examining issues identified during the public involvement process known as scoping, and collaborating with local, state, and federal agencies. Since the RODs for the existing plans were issued, new data have become available, and laws, regulations, and policies regarding BLM-administered lands have changed. In addition, decisions in existing plans do not satisfactorily address all new and emerging issues in the PA. These changes and potential deficiencies created the need to revise the existing plans.

The purpose of this RMP revision is to update management guidance from the previous plans, respond to new and emerging issues and concerns, and to guide management of public lands in accordance with the Federal Land Policy and Management Act (FLPMA) and the principles of multiple use and sustained yield. The RMP will provide goals, objectives, land use allocations, and management direction to maintain, improve, or restore resource conditions and to provide for the long-term benefits to the public, including economic needs of local communities.

1.3 Planning Process and Collaboration

The BLM is directed by the Federal Land Policy and Management Act of 1976, or FLPMA, to plan for and manage "public lands". As defined by the Act, public lands are those federally owned lands, and any interest in lands (e.g., federally owned mineral estate), that are administered by BLM. The Four Rivers FO is following the planning process, as set forth in the BLM Handbook H-1601-1, Land

Use Planning Handbook (BLM 2005a).

Throughout the planning process, the BLM has consulted with the Shoshone-Paiute Tribes and the Shoshone-Bannock Tribes and coordinated with various other federal, state, and local agencies. The Boise District Resource Advisory Council (RAC) has also been consulted throughout the development of the RMP. A full description of the consultation and collaboration efforts thus far and a list of preparers are in Appendix A.

After the BLM selects the RMP and the State Director issues a ROD, the BLM will implement the decisions in the RMP and monitor and evaluate how RMP decisions have been implemented and whether they are accomplishing the desired outcomes identified in the RMP. The BLM will periodically report the results of this monitoring and evaluation to the public. These cyclical evaluations will ensure accountability for implementing RMP decisions and will enable the BLM to propose amendments or revisions to RMP decisions that might be necessary or desirable.

1.4 Planning Issues and Criteria

1.4.1 Planning Issues

Planning issues that were identified during scoping and determined to be within the scope of the EIS were used to develop one or more of the alternatives or are addressed in other parts of the EIS.

During the scoping period, planning issues that reflected fundamental problems to be addressed in the RMP were identified. These issues are reflected in three overarching themes. The interdisciplinary team (ID Team) applied their expertise of a resource or resource use to better define or expand a theme.

1. Management of the Scattered BLM-administered Land Base: The scattered land base in the PA makes it difficult for BLM to meet the public's expectations for recreation, access, and resource extraction, while protecting and/or enhancing vegetation, soils, fisheries, and wildlife habitats. Managing small parcels of land presents a unique challenge for serving multiple uses and users within easy access of a large population base. Many smaller towns and communities that historically served only the local ranching and farming populations are experiencing rapid growth. As private lands adjacent to public lands are transformed to residential and commercial uses, the traditional agricultural economic base is increasingly supplanted.
2. Balancing Increasing Public Demand with Conservation of Fragile Resources: Population growth is increasing demands on BLM-administered land and escalating frequencies of user/resource conflicts that may expose unique resources and recreational experiences to loss or degradation. Increased recreational demand may cause resource management conflicts with some traditional or historic uses and, in many cases, user conflicts with other recreational users and activities. Recreation sites including trails, interpretive sites, camping areas, off-highway vehicle (OHV) use areas, and river takeout and launch sites are experiencing user conflicts or demands beyond their present capacity.
3. Balancing Resource Use (including energy development) with Other Uses of BLM-Administered Lands: Emerging interests in developing energy resources on public lands within the PA has presented new challenges to balancing multiple use while maximizing economic output of public lands.

1.4.1.1 Issues Identified for Development of Alternatives

The following planning issues were identified through public scoping and information gathered during the analysis of the existing management situation for the Four Rivers RMP, based on the input of BLM personnel, the public, and other agencies. The planning issues identified for developing

alternatives in this Proposed RMP/Final EIS are summarized below.

Issue: Land Management

- How can the BLM manage its scattered land base to meet the public's need for recreation, access, and resource extraction, while maintaining vegetation, soils, and fish and wildlife populations and habitat?
- What criteria will the BLM use to determine BLM-administered lands suitable for disposal, as well as types of land that should be acquired?
- Should lands be avoided or excluded from right-of-way purposes, and if so, which lands?

Issue: Wildlife

- How do we address the impacts to plants and wildlife from habitat fragmentation in the PA?

Issue: Transportation and Access

- How can the BLM provide access to public land while limiting impacts to natural and cultural resources, reducing user conflicts, and promoting public safety?

Issue: Fire Management

- How should wildfires and wildland fuels be managed to reduce impacts to human health and safety, communities and their values, and natural and cultural resources?

Issue: Vegetation

- How can the BLM best reduce the impacts of noxious and invasive weeds on public land users and resources?
- How will forest resources be managed in the PA?

Issue: Special Designations

- Where should the BLM use special designations to protect or enhance unique resources or recreational experiences?
- How will Wild Horse Herd Management Areas (HMA) be managed?
- How will the BLM identify and manage wilderness values on BLM-administered lands outside of current Wilderness Study Areas (WSAs)?
- How will the BLM manage to the non-impairment standard for WSAs?

Issue: Minerals and Energy

- What management and leasing actions are needed for mineral and energy developments to protect natural, biological, and cultural resources?
- What areas are suitable for renewable energy development?

Issue: Recreation

- In what areas and for what purposes should the BLM issue special recreation permits?
- How will the BLM respond to increasing demands for recreational activities and access to BLM- administered lands?

Issue: Grazing

- What BLM-administered lands are available or unavailable for grazing?
- How will the BLM manage closed or relinquished allotments?

Issue: Special Status Species

- How will the BLM manage land uses to protect and/or restore special status species (SSS) and their habitats?

Issue: Air Quality

- How will management activities be conducted to meet or surpass air quality standards?

Issue: Soil, Watershed, and Aquatic Resources

- How will the BLM manage riparian areas to meet or exceed proper functioning condition (PFC)?

Issue: Restoration

- How will the BLM identify and prioritize fire and habitat restoration activities?

Issue: Cultural and Paleontological Resources

- How can the BLM best protect and preserve cultural and paleontological resources and values?

Issue: Visual

- How will Visual Resource Management (VRM) objectives be applied to the PA to manage different visual resource values?

Issue: Socioeconomics

- How will BLM actions affect the social and economic sustainability of local communities?

1.4.1.2 Issues Considered but Not Further Analyzed

During scoping, public comments raised concerns regarding laws, regulations, or actions which are either beyond the scope of the EIS analysis; inconsistent with laws, regulations, or policy; or are more appropriately addressed by an implementation plan or other decision process. The Scoping Summary Report (BLM 2008d), available online at http://go.usa.gov/xnsn6, provides a comprehensive description of the issues that are outside the scope of the RMP or are addressed through other administrative or policy action.

Water Rights were identified as an issue for analysis for this plan but were not carried forward as the BLM Idaho State Office Water Rights Team has filed all applicable claims in the Snake River Basin Adjudication and obtained court decreed rights in 2014 (Idaho Department of Water Resources 2014).

1.5 Planning Criteria

Appendix B, *Planning Criteria* presents the planning criteria and identifies the laws, regulations, and policies that form the basis for these criteria and are relevant to each resource topic.

1.6 Relationship to Policies, Plans, and Programs

The general requirement in FLPMA and planning regulations is to coordinate the resource management planning process with plans of other agencies, states, and local governments to the extent consistent with law (see FLPMA Section 202(c)(9) and 43 CFR 1610.3-1(a)). In accordance with FLPMA, the BLM was aware of and considered state, local, and Tribal land use plans and provided meaningful public involvement throughout the development of the Proposed RMP/Final EIS. However, there may be inconsistencies that cannot be reconciled. The Four Rivers RMP will strive for consistency, with plans and their revisions, pertaining to lands included in and surrounding the PA, including, but not limited to, the following:

- County Comprehensive Plans for Ada, Adams, Boise, Canyon, Elmore, Gem, Owyhee, Payette, Valley, and Washington counties.
- State agency plans, including fish and wildlife management plans under the Idaho Department of Fish and Game and Comprehensive Basin Plans under the Idaho Water Resource Board.

The FLPMA and its implementing regulations require that the BLM's RMPs are consistent with, to

the maximum extent practical, officially approved state and local plans only if those plans are consistent with the purposes, policies, and programs of Federal laws and regulations applicable to BLM-administered lands. Where officially approved State and local plans or policies and programs conflict with the purposes, policies, and programs of Federal laws and regulations applicable to BLM-administered lands, there will be an inconsistency that cannot be resolved.

The more specific actions required to attain the goals and desired future conditions (DFC) defined in this RMP are accomplished through implementation plans. Land use planning is an ongoing and continuous process; this RMP must be viewed as a dynamic document. Implementation plans for actions with potential environmental effects would require formal analysis of alternatives in compliance with NEPA and related legislation. All such documents would be prepared with the appropriate level of public input.

1.6.1 Changes Between Draft RMP/EIS And Proposed RMP/Final EIS

Changes to create the Proposed RMP/Final EIS were made in response to public comment on the Draft RMP/Draft EIS, cooperating agency input, and extensive internal BLM reviews of the Proposed RMP/Final EIS. The Draft RMP/Draft EIS was available for a 120-day comment period, including a 32-day extension, ending on September 23, 2019. The BLM held four public comment open houses in the PA for the Draft RMP/Draft EIS in June. The BLM received over 11,000 comment letters during the public comment period. Excerpted substantive comments and the BLM's responses to those substantive comments are in Appendix Z. The BLM considered all substantive comments and used many of them to assist in making changes or clarifications to this Proposed RMP/Final EIS. When developing the Proposed RMP, the BLM focused on addressing public comments on the Draft RMP/Draft EIS, while continuing to meet its legal, regulatory, and policy mandates.

The Proposed RMP/Final EIS only presents the Proposed Plan which is largely a variation of Alternative D described in the Draft RMP/Draft EIS and represents adjustments made after consideration of public and Cooperating Agency comments. The Proposed Plan is within the range of alternatives analyzed in the Draft RMP/Draft EIS. No changes were made to Alternatives A, B, C, and D presented in the Draft RMP/Draft EIS; these alternatives are incorporated by reference into this Proposed RMP/Final EIS.

Chapter 2 - Alternatives

2.1 Introduction

Chapter 2 describes five alternative Resource Management Plans (RMP) for the management of the Planning Area (PA): Alternative A (No Action - Continuation of Existing Management Direction), Alternative B (Emphasis on the Protection of Resources), Alternative C (Emphasis on Development of Resources), Alternative D, and the Proposed Plan. The four action alternatives present a range of management options to guide decision-making for managing uses and activities within the PA as compared to current direction. Each alternative management plan is intended to provide for compatible resource use and development opportunities while minimizing adverse impacts on cultural and natural resources, consistent with current laws, regulations, and policies.

These alternatives provide a framework for measuring the impacts on the PA that might occur as a result of future management. The alternatives themselves do not constitute management decisions, but instead represent reasonable approaches to managing land and activities consistent with laws, regulations, and policies. Proposed management for special designations and recreation areas was developed to specifically address the resources and values for which each area is proposed or already designated. In some cases, management proposed for the entire planning area was found to be sufficient to address the resources and values of a specific area, and therefore, area specific management is not warranted. Unless specified, resource specific management would apply to all of the planning area. The Bureau of Land Management (BLM) has the discretion to select an alternative in its entirety or to combine aspects of the various alternatives presented in this draft to develop the Proposed RMP and Final Environmental Impact Statement (EIS). The Proposed Plan is presented in Table 2.1. The No Action (Alternative A), Alternative B, Alternative C, and Alternative D are fully described in the Draft RMP/EIS (Chapter 2, pg. 6-68) (BLM 2019) and are incorporated by reference.

2.2 Proposed Plan

In response to pubic and cooperating agency comments on the Draft RMP/Draft EIS, the Proposed Plan largely reflects Alternative D as described in the Draft RMP/Draft EIS with the following changes included:

- The addition of slickspot peppergrass management actions from the 2014 Conservation Agreement that were previously included in Appendix L of the Draft RMP/EIS.
- Addition of livestock grazing management actions to allow for flexibility and use of invasive annual grasses.
- Addition of the Boise Front Area of Critical Environmental Concern (ACEC) for a total of three ACECs in the Proposed Plan.
- Addition of the Bennett Hills Backcountry Conservation Area.
- Clarifications to the proposed management actions and analysis in the vegetation, special status species, fish and wildlife, aquatic resources, wild horses, fire ecology and fuels management, visual resources, forestry and woodland management, livestock grazing, travel and transportation management, lands and realty, mineral resources, hazardous materials and public safety, and special designations.

2.3 Alternative A

The No Action Alternative is defined as continuation of the current management direction. The 1983 Kuna Management Framework Plan (MFP), the 1987 Jarbidge RMP, and the 1988 Cascade RMP are the basis for Alternative A. The land use plans in the PA have been amended by several actions including the recent Idaho and Southwestern Montana Approved Resource Management Plan Amendment in 2015 (BLM 2015b). Alternative A incorporates those amendments as described in the

DEIS. The existing designations, allowable uses, and management actions contained in the Kuna MFP and Jarbidge and Cascade RMPs as amended would continue to be implemented in their respective areas, unless changed by laws, regulations, or policies; or through amendment. Land tenure adjustments would only occur on those areas identified as available for disposal in the Cascade and Jarbidge RMPs or Kuna MFP, as amended.

2.4 Alternative B

Alternative B emphasizes protecting natural and cultural resource values from potential negative impacts of population growth and increased use and would use more protective measures for plants and wildlife. While some areas would still emphasize recreation and community development uses, the primary emphases are conservation, and reduction of habitat fragmentation and resource degradation. Land disposal/acquisition criteria focus on natural resource protection and maintenance of migratory corridors.

2.5 Alternative C

Increased population growth is a primary factor influencing land management decisions in the PA. The actions proposed in Alternative C would help accommodate this growth. This alternative emphasizes designating lands as "available" for disposal for local community expansion, providing economic expansion through extractive energy resource use, and providing recreational use diversity. Land disposal/acquisition criteria would emphasize using local community plans to achieve social and economic goals.

2.6 Alternative D

The emphasis of Alternative D is to manage public lands to promote economic development while conserving natural and cultural resources. Alternative D recognizes the diversity of needs and issues throughout the PA. Concerns about wildland fire, big game winter range, migration corridors, and connectivity would result in proactive management for natural and cultural resources while accommodating regional growth.

2.7 Alternatives Considered but Not Analyzed in Detail

The following alternatives and management options were considered as possible ways of resolving resource management issues and conflicts but were eliminated from detailed analysis because they were unreasonable or impractical as a result of technical, legal, or policy factors.

No Grazing in the Entire Planning Area

An alternative that proposes to close the entire PA to livestock grazing would not meet the purpose and need of this document. Portions of the PA do include GRSG habitat, and the impacts described for those lands are not substantially different than what those impacts would be on lands outside of GRSG management areas. FLPMA requires that public lands be managed on a multiple use and sustained yield basis (Sections 302(a) and 102(7)) and includes livestock grazing as a principal or major use of public land. While multiple use does not require all land be used for livestock grazing, complete removal of it from public land within the PA is not consistent with FLPMA. Such an alternative would also be inconsistent with the intent of the Taylor Grazing Act, which directs BLM to "provide for livestock use of its lands; adequately safeguard grazing privileges; provide for the orderly use, improvement, and development of the range; and stabilize the livestock industry depending upon the public range."

Portions of the PA are suitable for livestock grazing and have been used for that purpose for many years. Closure of areas to livestock grazing are proposed throughout the PA, and the acreage and AUMs vary by alternative. These closures are reflective of the overall alternative's priority for resource management. However, closures as well as re-opening of areas to grazing use, on an

individual parcel, allotment, or pasture basis may be necessary, and carried out within federal grazing regulations. Therefore, a no grazing alternative for the entire PA has been dismissed from further consideration.

No Trade or Disposal Alternative

A desire was expressed during scoping for no trading or disposal of public land to maintain open space in the PA. Such an alternative would not give BLM the ability to consolidate land or acquire high-value land for public benefit. Additionally, an alternative where no lands in the PA would be available for disposal is inconsistent with FLPMA. The RMP planning process does not serve as a mechanism to dispose of public land, but merely to identify lands appropriate for future disposal consideration; see Appendix C of the Land Use Planning Handbook (H-1601–1) (BLM 2005a). Therefore, a no trade/disposal alternative was dismissed from further consideration.

Complete Custodial Management

Custodial management would be considered a "no management" policy on public land. With custodial management, BLM would not have an active role in administering programs, such as, but not limited to, recreation, special uses, grazing, lands and realty, minerals, or travel management. The public land would be used at the discretion of the user with no recourse for possible abuse. This alternative would be inconsistent with FLPMA. Therefore, a complete custodial management alternative was dismissed from further consideration.

Table 2.1 – Proposed Resource Management Plan

General Section	
Proposed Management	
Management Actions	
MA-GE-01	Consult, coordinate, and collaborate with appropriate Tribes and federal, state, and local governments and agencies in the development of projects and activities.
MA-GE-02	Coordinate with potentially affected private landowners in the development of projects and activities.
MA-GE-03	Incorporate management actions and design features (Appendix C) into site-specific project planning to address concerns and to minimize and/or eliminate impacts to special status species.

Tribal Interests	
Proposed Management	
Goals:	
GL-TR-01	Manage Traditional Cultural Properties in consultation with affected Tribes, allowing for the preservation of sites and access to traditional cultural properties to accommodate for traditions, customs, and practices.
GL-TR-02	Provide for Tribal Treaty Rights and Interests on unoccupied public lands.
Objectives:	
OB-TR-01	Educate the public about the importance of traditional Tribal use of the PA.
OB-TR-02	Provide Tribal access to the PA for hunting, fishing, and gathering and to practice Tribal religions and cultures.
OB-TR-03	Maintain traditional/cultural use values and the health of land and water resources so treaty rights and interests can be fulfilled by Tribal members on unoccupied public lands.
Management Actions:	
MA-TR-01	Protect the physical condition of sacred sites and traditional cultural properties and preserve Tribal access to such sites in accordance with NHPA, AIRFA, and EO 13007, Sacred Sites.
MA-TR-02	Prohibit camping within 50 feet of rockshelters and/or caves.
MA-TR-03	Consider the 1868 Fort Bridger Treaty when making land management decisions affecting BLM-administered public lands. Consider Tribal members' off-Reservation treaty rights (i.e., gathering, hunting, fishing, and practicing Tribal cultural activities) on unoccupied public lands.
MA-TR-04	Work collaboratively with the Tribes regarding the identification and management of traditional cultural properties.
MA-TR-05	Identify the effects of decisions on vegetation, fish, wildlife, mineral, and water resources of importance to the Tribes, through consultation, and seek ways to lessen or avoid impacts.
MA-TR-06	Tribal governments would be consulted on land management actions and allocations that could affect treaty rights.
MA-TR-07	Provide general information to staff and contractors regarding existing and historic uses of the PA by the Tribes, Federal government trust responsibilities, and the importance of Native American treaty rights in order to foster a greater understanding and appreciation of Tribal rights and interests related to public land management.
MA-TR-08	The Tribes would continue to have access to the PA for hunting, fishing, and gathering and to practice their religions and cultures. Area and route designations, with the exception of designated wilderness areas, also would not apply to vehicles being used by members of the Shoshone-Bannock Tribes, Shoshone-Paiute Tribes, and designated representatives and/or employees of the Tribes, to access traditional use areas of importance to the Tribes or to vehicles being used by members of the Tribes to exercise their tribally reserved treaty rights.

Cultural Resources	
Proposed Management	
Goals:	
GL-CR-01	Identify, preserve, and manage historic properties (as defined in 36 CFR 800.16) in accordance with all applicable laws, regulations, and policies to ensure that resources are available for uses by present and future generations.
Objectives:	
OB-CR-01	Provide for the protection of historic properties while managing and providing for resource uses. Proactive measures, including environmental education, would heighten public awareness.
OB-CR-02	Avoid, minimize, or mitigate adverse effects on historic properties.
Management Actions:[1]	
MA-CR-01	Manage all historic properties within the FRFO PA in accordance with NRHP. Historic properties will be evaluated for inclusion in the NRHP and for important values for preservation/education and outreach/scientific research.
MA-CR-02	Do not allow surface disturbance activities within 500 feet of known cave entrances, passages, or aspects of caves which contain significant cultural resources.

Paleontological Resources	
Proposed Management	
Goals:	
GL-PR-01	Manage paleontological resources in accordance with the Paleontological Resources Protection Act and reduce imminent threats to paleontological resources from natural or human-caused deterioration or potential conflict with other resources.
GL-PR-02	Promote stewardship, conservation, and appreciation of paleontological resources through public education programs.
Objectives:	
OB-PR-01	Provide opportunities for scientific paleontological research.
OB-PR-02	Provide paleontological interpretation opportunities.
OB-PR-03	Maintain the opportunity for the casual collection of non-vertebrate fossils for personal use.
Management Actions:	
MA-PR-01	Identify areas that contain paleontologically significant sites and avoid land use authorizations (LUAs) within these areas.
MA-PR-02	Surface-disturbing activities would not be allowed within paleontologically significant sites, including the Sugar Bowl, Glenns Ferry, and McGinnis Ranch.
MA-PR-03	Issue permits to qualified paleontologists for research upon request. Actively solicit research efforts to identify, monitor, and collect data on fossil resources.
MA-PR-04	Require on-the-ground survey prior to surface disturbance or land tenure (disposal or sale parcels) adjustments. Monitor surface-disturbing activities as appropriate.

[1] Management actions pertaining to the Oregon National Historic Trail are found in the Special Designations section.

Vegetation Resources	
Proposed Management	
Goals:	
GL-VG-01	Manage vegetation communities to restore, maintain, or enhance vegetation composition consistent with ecological site potential.
GL-VG-02	Maintain, improve, enhance, or restore areas of ecological importance, soil health (e.g. chemical, physical, and biotic properties), priority plant species and habitats, and unique plant communities to facilitate the conservation, recovery, and maintenance of populations of native plant species.
GL-VG-03	Improve structure and function of annual-dominated and seeded communities.
Objectives:	
OB-VG-01	Manage vegetation to promote soil and watershed stability appropriate to soil type.
OB-VG-02	Restoration priority would be based on need and potential for success.
OB-VG-03	Expand sage-steppe vegetation (i.e., increase patch size; protect and enhance migration/movement corridors; improve forb, perennial native grass, and riparian conditions; and convert exotic annual grasslands to perennial natives).
OB-VG-04	Limit spread and establishment of noxious weed and new invasive species.
OB-VG-05	Establish desired plant community objectives for upland and riparian areas for the planning area through individual site-specific activity and implementation planning and as updated ecological site inventory data become available. All activity and implementation plans would incorporate desired plant community objectives.
Management Actions:	
MA-VG-01	Prioritize new noxious weed infestations/occurrences, invasive plants dispersal corridors, and important SSS habitats (e.g., ACECs, Type 1 SSP pollinator habitat) for weed treatment.
MA-VG-02	Implement noxious weed and invasive species control using integrated pest management actions per national guidance and local weed management plans for Cooperative Weed Management Areas in cooperation with State and Federal agencies, affected counties, and adjoining private lands owners.
MA-VG-03	Implement vegetation rehabilitation or manipulation projects (not limited to chemical, mechanical, biological, and/or seeding treatments) to: 1) maintain or enhance the desired vegetation community structure consistent with ecological site potential unless projects are designed to achieve fuels management objectives; or 2) improve ecological health of areas dominated by annual grasses to manage for a longer fire return interval consistent with ecological site potential.
MA-VG-04	Prioritize and implement restoration to emphasize and augment vegetation community maintenance and recovery in habitat areas, timber production and forest fire prevention in commercial logging areas, and forage production in livestock areas. Emphasize the conservation of intact landscapes to reduce the need for active restoration.
MA-VG-05	Use vegetation (native and/or nonnative) based on probability of success for restoration and rehabilitation activities. Non-native species and cultivars that are considered transitional or noninvasive may be used to achieve site stabilization, fuel breaks, or invasive plant control. In slickspot peppergrass habitat, potentially invasive species such as intermediate wheatgrass and prostrate kochia will not be used within 1.5 miles of EOs.
MA-VG-06	Incorporate Best Management Practices as appropriate into project design when planning restoration and rehabilitation activities (Appendix C).
MA-VG-07	Identify and establish seed harvest areas for reliable sources of locally adapted seed to be used in rehabilitation and restoration activities.
MA-VG-08	Promote diversity, richness, and health of native plant communities to support pollinators and habitat for slickspot peppergrass.

Special Status Species	
Proposed Management	
Goals:	
GL-SSS-01	Maintain, restore, or enhance special status species habitat in coordination and consultation with USFWS, local, state, and other federal agencies in an effort to provide for their long-term sustainability
GL-SSS-02	Maintain and/or improve the abundance, distribution and connectivity of Greater Sage-Grouse habitat by conserving, enhancing, and restoring sagebrush vegetation by reducing, eliminating or minimizing threats to Greater Sage-Grouse habitats using the guidelines and methods in the Greater Sage-Grouse Approved Resource Management Plan Amendment (BLM 2015b).
GL-SSS-03	Conserve, enhance, and restore sagebrush ecosystems in an effort to maintain and/or increase the abundance and distribution of special status species in cooperation with conservation partners.
GL-SSS-04	Maintain corridors for wildlife by managing habitat characteristics consistent with needs associated with migrating species.
Objectives:	
OB-SSS-01	Where appropriate, establish ecological reference sites (approximately 40-160 acres) for long-term monitoring of slickspot peppergrass management areas.
OB-SSS-02	Manage small mammal habitat to maintain species abundance and prey availability for raptors and other wildlife.
OB-SSS-03	Work with partners on outreach programs. Implement conservation strategies for BLM special status species consistent with recovery plans, cooperative agreements, memorandums of understanding, and other conservation partnerships.
Management Actions*: All Special Status Species*	
MA-SSS-01	Incorporate Greater Sage-Grouse Seasonal Habitat Objectives (BLM 2015b), into the design of projects or activities in Greater Sage-Grouse habitat, as appropriate, based on site conditions and ecological potential to maintain forage, cover, and lek security.
MA-SSS-02	Identify and map habitats and migration corridors of special status species in coordination with the IDFG. Use these areas to minimize or eliminate impacts to special status species during site-specific project implementation and travel management planning.
MA-SSS-03	Incorporate management actions and design features into site-specific project planning to address concerns and to minimize and/or eliminate impacts to special status species.
Management Actions*: Threatened and Endangered Species*	
MA-SSS-04	Allocate designated critical habitat for Threatened and Endangered species as LUA avoidance areas to avoid detrimental impacts to the species.
MA-SSS-05	Maintain and enhance habitat to support implementation of the USFWS Recovery Plan for the Northern Idaho Ground Squirrel (2003) or subsequent revisions of this recovery plan.
MA-SSS-06	Implement the USFWS Upper Snake Recovery Unit Implementation Plan for bull trout (2015) within the primary core areas (USFWS 2015).
Management Actions*: Bats*	
MA-SSS-07	Coordinate with IDFG when developing management of caves, portions of caves, or abandoned mines containing bat habitat (e.g., hibernacula, nurseries, etc.).
Management Actions*: Sensitive Wildlife Species*	
MA-SSS-08	Site and schedule surface disturbing and disruptive activities to reduce impacts on special status species. Spatial and temporal buffers described in Appendix D would be applied as fluid mineral leasing stipulations in slickspot peppergrass habitat areas.
MA-SSS-09	Re-establish native trees and shrubs (e.g., cottonwood, willow) consistent with ecological site potential in riparian wildlife habitats.

Special Status Species	
Proposed Management	
Management Actions*: Greater Sage-Grouse Within Designated IHMA and GHMA*	
MA-SSS-10	Greater Sage-Grouse Habitat Management Areas have been designated in each Conservation Area in Idaho through the 2015 ARMPA: PHMA, IHMA and GHMA. There are no PHMAs designated in the PA. Lands designated as IHMA and GHMA will continue to be managed to maintain the population and habitat objectives set forth in the ARMPA. Management actions from the 2015 ARMPA applicable to the FRFO PA are incorporated by reference. These decisions will be incorporated as appropriate in the development of project proposals.
Management Actions*: Slickspot Peppergrass*	
MA-SSS-11	Incorporate appropriate conservation measures for slickspot peppergrass or recovery plans into implementation and project design within slickspot peppergrass habitat to avoid and minimize impacts on slickspot peppergrass.
MA-SSS-12	Ensure that ongoing and new Federal actions support or do not preclude species conservation in habitat categories for slickspot peppergrass.
MA-SSS-13	Include language in all use authorizations to require rehabilitation of habitat categories for slickspot peppergrass and in the case of trespass or permit violations, if damage occurs.
MA-SSS-14	Provide program specific management actions relative to conserving slickspot peppergrass and its habitat.
MA-SSS-15	Incorporate management actions as applied in USFWS recovery plans or equivalent cooperating agency policies.
Management Actions: *Wildlife*	
MA-SSS-16	Manage facilities installed for wildlife to promote maintenance of habitat categories for slickspot peppergrass.
MA-SSS-17	Restore wildlife habitat while promoting slickspot peppergrass conservation.
Management Actions: *Livestock*	
MA-SSS-18	Manage livestock grazing and trailing to conserve suitable habitat conditions for slickspot peppergrass while implementing rangeland health standards and guidelines (S&Gs).
MA-SSS-19	Apply the Implementation of Annual Grazing Adaptive Management (Appendix E, Figure 1), to adjust livestock use as appropriate.
MA-SSS-20	Supplements will be placed at least 1/2 mile from EOs. Supplements will be placed so that livestock are drawn away from the EO and avoid trailing through the EO en route to the supplement or a water source. Management requirements will be adjusted to maintain an appropriate distance between supplements and existing EOs to avoid impacts.
MA-SSS-21	No new domestic horse AUMs will be authorized in pastures containing EOs to avoid trampling impacts.
MA-SSS-22	Conduct pre-season range readiness checks for soil moisture conditions in allotments with slickspot peppergrass occupied habitat.
MA-SSS-23	Conduct post-use monitoring for trampling in slickspots within slickspot peppergrass EOs (could be done in conjunction with utilization compliance checks).
MA-SSS-24	Provide adequate rest from livestock use for areas treated after major disturbances in habitat categories for slickspot peppergrass. Major disturbances may include fire, fire rehabilitation, or other soil-disturbing occurrences.
MA-SSS-25	Manage livestock facilities to promote slickspot peppergrass conservation while implementing rangeland health S&Gs.
MA-SSS-26	New water troughs will be placed at least 1 mile from EOs. A deviation from this standard may be developed on a case-by-case basis through collaboration with the USFWS. New water troughs will be placed so that cattle are drawn away from the EO and avoid trailing through an EO en route to a water source.
Management Actions: *Recreation*	
MA-SSS-27	Manage existing recreation and visitor facilities to promote special status species habitat.
MA-SSS-28	Manage dispersed use sites to promote conservation of species habitat. This includes limiting disturbances to the species resulting from human uses.

Special Status Species	
Proposed Management	
MA-SSS-29	Manage commercial recreation and noncommercial recreation permits to promote conservation of slickspot peppergrass habitat.
Management Actions: *Travel and Transportation Management*	
MA-SSS-30	Manage roads, OHV routes and areas, as well as non-motorized trails, to promote species habitat conservation. This includes management of roads and trails, as well as ground disturbance resulting from human uses.
Management Actions: *Fire*	
MA-SSS-31	Fire suppression efforts will be conducted, as possible, to protect habitat categories for slickspot peppergrass. Place a high priority on protecting habitat categories for slickspot peppergrass.
MA-SSS-32	Do not locate fire base camps, staging areas, and fueling areas within occupied habitat.
MA-SSS-33	Avoid fire use projects in habitat categories for slickspot peppergrass.
MA-SSS-34	Conduct fuels management projects for long-term benefits to slickspot peppergrass and habitat categories.
MA-SSS-35	Design prescribed fire projects to conserve and enhance habitat categories.
Management Actions: *Emergency Stabilization and Rehabilitation*	
MA-SSS-36	Implement Emergency Stabilization and Rehabilitation (ESR) activities to consider slickspot peppergrass in and adjacent to slickspot peppergrass habitat rehabilitation areas.
MA-SSS-37	Evaluate wildfires within habitat categories for slickspot peppergrass for ES&R treatments, regardless of size with an emphasis on retaining native plant resiliency including early seral native grasses, forbs, and biological soil crusts.
Management Actions: *Lands and Minerals*	
MA-SSS-38	Where feasible and funding is available, acquire through land exchange or purchase private lands that contain habitat categories for slickspot peppergrass.
MA-SSS-39	Retain occupied slickspot peppergrass habitat in Federal ownership unless such a transfer would result in a net benefit to the species.
MA-SSS-40	Require new or renewing permit or lease holders to establish at least 50 percent perennial cover after all ground disturbing activities, unless ecological site conditions preclude that level of cover. If a native species component existed prior to the ground disturbance, then the native species component of the perennial cover should be restored.
MA-SSS-41	Promote conservation of slickspot peppergrass habitat categories when issuing new land use permits or rights-of-way, approving plans of development for salable and leasable minerals, and approving plans of operation for locatable minerals.
Management Actions*: BLM Special Status Plants (Types 2-4)*	
MA-SSS-42	Promote diversity, richness, and health of plant communities to support pollinators and habitat for Type 2 SSP EOs.
MA-SSS-43	Apiary land use permits would avoid SSP EOs by 2 miles.
MA-SSS-44	Locate livestock concentrating activities (e.g., salting/ supplements and water developments) a minimum of 0.25- mile from Type 2 SSP EOs.

Fish and Wildlife	
Proposed Management	
Goals:	
GL-FW-01	The distribution, abundance, and quality of fish and wildlife habitats would be maintained or improved to provide food, cover, and space for healthy populations of game and non-game species.
GL-FW-02	Fish and wildlife habitat connectivity would be improved and fragmentation reduced.

Fish and Wildlife	
Proposed Management	
GL-FW-03	Long-term sustainability of fish and wildlife populations would be maintained.
Objectives:	
OB-FW-01	Maintain or improve native plant communities consistent with vegetation goals and objectives to provide habitat for fish and wildlife.
OB-FW-02	Terrestrial and avian migratory or movement corridors would be maintained to reduce habitat fragmentation.
OB-FW-03	Big game winter habitat would be maintained and improved.
OB-FW-04	Maintain habitat to support healthy, sustainable bighorn sheep populations.
OB-FW-05	Riparian habitat would be managed to promote native riparian vegetation and encourage retention of wetlands, springs, and seeps.
OB-FW-06	Where opportunities are identified, habitat connectivity would be restored in fish-bearing streams except in areas where non-native fish exist below a passage barrier.
Management Actions:	
MA-FW-01	Projects proposed in big game winter range would be designed to minimize disturbance.
MA-FW-02	Restore or enhance wildlife habitat. Prioritize projects that support implementation of IDFG wildlife management plans and meet wildlife population objectives.
MA-FW-03	Coordinate with the State of Idaho (IDFG) to identify and map habitats and corridors of big game species. Consider these areas to reduce impacts to big game species during site-specific project implementation and travel management planning.
MA-FW-04	Consider shorebird and waterfowl habitat when designing projects involving wetland habitat, including seasonally flooded and perennially flooded wetlands, and open-water habitat, including reservoirs.
MA-FW-05	Manage springs, reservoirs, and riparian areas to provide water for livestock and other agricultural uses and to support riparian and wetland habitat.
MA-FW-06	Manage riparian and wetland habitat to support implementation of IDFG wildlife management plans and population objectives.
MA-FW-07	Apply spatial and temporal buffers as appropriate in accordance with Appendix D. Spatial and temporal buffers described in Appendix D would be applied as fluid mineral leasing stipulations.
MA-FW-08	Reduce risk of disease transmission between domestic sheep and goats and bighorn sheep through implementation of separation best management practices as identified in the Idaho Bighorn Sheep Management Plan (IDFG 2010).
MA-FW-09	Avoid surface disturbing activities in blocks of shrub habitats that would result in habitat fragmentation, unless short term activities will result in long-term maintenance or protection of habitats.

Aquatic Resources	
Proposed Management	
Goals:	
GL-AR-01	Upland and riparian conditions would support water quality consistent with the State of Idaho's water quality standards.
Objectives:	
OB-AR-01	Achieve, maintain, or make progress towards maintaining riparian and wetland Proper Functioning Condition.
OB-AR-02	Manage vegetation to promote retention of wetlands, springs, and seeps.
OB-AR-03	Limit spread and establishment of invasive species.
Management Actions:	
MA-AR-01	Incorporate the Aquatic Riparian Management Strategy (ARMS) (Appendix F) in the design and implementation of projects involving streams and wetlands.

Aquatic Resources	
Proposed Management	
MA-AR-02	Make adjustments to management in areas with streams and springs that are not achieving PFC in order to achieve or make progress towards achieving PFC. Prioritize by: 1. Fish-bearing streams with special status species (e.g., redband and bull trout) 2. 303(d) listed streams 3. Fish-bearing streams 4. Streams with perennial flows 5. Springs and associated wetland complexes ≥ 0.5-acres 6. Naturally occurring ponds/lakes
MA-AR-03	Site development projects occurring in areas with streams, wetlands, seeps, and reservoirs to maintain riparian habitat quality.
MA-AR-04	Manage springs, reservoirs, and riparian areas to provide water for livestock and other agricultural uses and to support riparian and wetland habitat.

Wild Horses	
Proposed Management	
Goals:	
GL-WH-01	Manage wild horse populations at appropriate management level (AML) to achieve and maintain a healthy herd, a thriving, natural ecological balance, and multiple use relationship on public land.
Objectives:	
OB-WH-01	Manage WHB to maintain herd health.
Management Actions:	
MA-WH-01	Maintain the West Crane Creek HA at a level of zero horses
MA-WH-02	Manage and maintain the Four Mile HMA at 18,800 acres.
MA-WH-03	Maintain the Four Mile HMA at an AML level of 37 to 60 horses.
MA-WH-04	Use fertility control (e.g., PZP, SpayVac, GonaCon, sterilization etc.) to slow population growth rates or gather excess wild horses to low AML when monitoring data supports that populations are projected to meet or exceed the upper AML or have exceeded AML (typically a 4-year gather cycle).
MA-WH-05	Manage the Four Mile HMA as a partially non-reproducing herd, utilizing a variety of tools, including but not limited to fertility control, gelding, spaying, or other sterilization methods. Implementation of any specific fertility control tools would be through a site-specific activity plan consistent with National program policy and guidance.
MA-WH-06	Allow new fencing in the Four Mile HMA that does not impede wild horse management and supports multiple use.
MA-WH-07	Water developments would be provided if necessary to improve herd distribution and manage forage utilization.
MA-WH-08	Provide access to water where necessary to sustain wild horse herd, improve wild horse herd distribution, and manage forage utilization while maintaining AML.

Wildfire Ecology and Fuels Management	
Proposed Management	
Goals:	
GL-WFF-01	Manage wildland fuel loads to protect human life and property from wildfire.

Wildfire Ecology and Fuels Management	
Proposed Management	
GL-WFF-02	Safely and effectively reduce the size and intensity of wildfires to protect human communities and their values, as well as wildlife habitats, plant communities, and tribal and cultural resources that would be damaged by wildfire.
GL-WFF-03	Restore natural fire regimes and frequencies to the landscape and utilize wildland fire and vegetation treatments (mechanical, chemical, biological, i.e. grazing, and prescribed fire) to meet multiple-use resource objectives, including returning fire to its natural role in the ecosystem.
Objectives:	
OB-WFF-01	Use education and community awareness campaigns to raise awareness of wildfire risk to help prevent wildfire.
OB-WFF-02	Reduce hazardous fuel loads that: 1) increase fire risk to life and property in WUI areas; or 2) threaten resource values.
OB-WFF-03	Manage fuels consistent with fire regimes and return intervals based on ecological site potential.
OB-WFF-04	Implement fuels treatments to limit the spread, size, and intensity of wildland fire.
OB-WFF-05	Manage wildfires to minimize loss of sagebrush and protect Greater Sage-Grouse habitat.
OB-WFF-06	Connect natural and man-made fuel breaks in fire prone areas to protect existing natural vegetative communities and restored areas.
OB-WFF-07	Coordinate with the public, counties, and interagency cooperators and stakeholders to strengthen coordination of all fire management activities and encourage the creation of fire safe communities.
Management Actions: *Fuels Management*	
MA-WFF-01	Use a variety of tools and methodologies (prescribed fire, livestock grazing, biological, mechanical, and/or chemical treatments) to meet fuels objectives.
MA-WFF-02	Site fuels treatments strategically on the landscape to reduce the potential start and spread of unwanted wildfires and provide anchor points or control lines for the containment of wildfires to prevent fire from spreading into intact native ecosystems and successfully rehabilitated areas.
MA-WFF-03	Design, locate, and maintain fuel breaks to limit or reduce wildfire rates and spread in the highest fire risk areas that would provide the greatest benefit to suppression support activities.
MA-WFF-04	Consider using new ROWs or existing ROWs (during renewal) for use as fuel breaks, if they meet one or more of the fuel break criteria below and where they effectively contribute to existing fuel break and suppression strategies. Fuels management zone — new ROW fuel break criteria: ● Linear feature ● Adjacent to the wildland-urban interface ● Adjacent to high value natural resources ● Protects existing native vegetation patches or islands ● Access provided through existing roads and trails ● Connects existing man-made and naturally existing fuel breaks (e.g., rocky ridges or water features) ● Adjacent to historic ignition sources (e.g., railroads, highways, powerlines) ● Logical anchor points for fire suppression purposes
MA-WFF-05	In allotments where invasive annual grasses are common and may represent a dangerous fuel load in some years; grazing permits will be renewed with the dual purpose of maintaining or improving ecological health and managing for a longer fire return interval. To that end, base AUMs will be permitted according to available perennial forage compatible with achieving land health objectives. Additional invasive annuals AUMs would be available on the permit to be activated, in years when invasive annuals are abundant, upon approval from the authorized officer. The season of use for invasive annual AUMs could vary from the terms and conditions for the base AUMs so long as provisions are in place to prevent damage to perennial vegetation. See MA-LG-06 and Map 3-1 for where and how those AUMs may be available.

Wildfire Ecology and Fuels Management	
Proposed Management	
Management Actions: *Wildfire Suppression*	
MA-WFF-06	Wildfire management priorities: The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be done based on the values to be protected, human health and safety, and the costs of protection.
MA-WFF-07	Prioritize special status species habitats and intact native sage-steppe for wildfire suppression after priorities outlined in MA-WFF-06.
MA-WFF-08	Use non-surface-disturbing techniques in WSAs, ACECs, and special status plant species habitats wherever possible to meet suppression goals.
MA-WFF-09	Utilize a full range of fire management strategies and tactics within acceptable risk levels to achieve resource objectives.
MA-WFF-10	Prescribed fire could be used in low-elevation shrub and grassland communities as a site preparation tool before vegetation restoration or to reduce weed buildup along linear features such as fence lines. Prescribed fire could be used in upper elevation shrub communities and aspen stands, when necessary to meeting objectives.
MA-WFF-11	Fuel breaks would not be expected to meet rangeland health standards, but would instead serve as 'brown-strips' designed to protect adjacent rangelands from fire. When practical, brown-strips could be converted to living 'green-strip' fuel breaks.

Air Quality	
Proposed Management	
Goals:	
GL-AQ-01	BLM-authorized actions would meet applicable local, state, and National Ambient Air Quality Standards (NAAQS) under the Clean Air Act (CAA), as amended, and Prevention of Significant Deterioration (PSD) regulations.
Objectives:	
OB-AQ-01	Maintain the quality of the planning area's air resources by ensuring that management activities and authorized uses are conducted within air quality standards.
Management Actions:	
MA-AQ-01	Coordinate all prescribed burning with state and local air quality agencies to ensure that local air quality is not significantly impacted by BLM activities.
MA-AQ-02	Conduct planned activities in accordance with the Idaho State Implementation Plan of the CAA.
MA-AQ-03	Emissions from point and non-point sources would be limited by requiring and implementing mitigation measures and/or Standard Operating Procedures (Appendix C).

Visual Resources	
Proposed Management	
Goals:	
GL-VR-01	Maintain or improve overall scenic qualities and visual values of characteristic landscapes in conjunction with other resource values and multiple uses.
Objectives:	
OB-VR-01	Manage visual resources according to established guidelines for visual resource management (VRM) classes.

Visual Resources	
Proposed Management	
Management Actions:	
MA-VR-01	VRM Class Acres (Map 2-1): ● Class I: 23,270 acres ● Class II: 164,900 acres ● Class III: 511,880 acres ● Class IV: 83,110 acres

Forestry and Woodland Management	
Proposed Management	
Goals:	
GL-FOR-01	Forest and woodland vegetation communities are healthy and productive, providing functioning watershed, ecological habitat, and economic values.
Objectives:	
OB-FOR-01	Suitable commercial forest lands would be managed for a combination of forest health, reduction of fire risk associated with fuel loads, and timber productivity.
OB-FOR-02	Economic opportunities for utilizing products from forestry or woodland management activities would be enhanced.
Management Actions:	
MA-FOR-01	Develop cooperative relationships with adjacent landowners to facilitate effective forest management.
MA-FOR-02	Consider and prioritize for treatment and/or harvest forested areas that would provide merchantable timber or other forest products and improve forest health or reduce fuel hazards.
MA-FOR-03	Make available for use wood products (fuelwood, posts, poles, house logs, timber, etc.) generated from vegetation treatment activities.
MA-FOR-04	Harvest and treatment activities would follow appropriate best management practices (Appendix C) to limit impacts to riparian areas, sensitive species, and other resource values.
MA-FOR-05	Retain adequate coarse, woody debris in forested areas to provide habitat for ground dwelling animals and nutrient recycling without creating hazardous fuel loads leading to increased wildfire risk.
MA-FOR-06	Maintain snag trees in timbered areas to provide habitat for cavity nesting birds and other snag-dependent species where they exist.
MA-FOR-07	Construct forest access roads as needed. If not needed for future management, constructed roads would be rehabilitated and made impassable to motorized traffic. If needed more than 10 years hence, constructed roads could be scarified, seeded, and closed (gate or earthen barricade) to vehicular traffic.
MA-FOR-08	Utilize a variety of cutting practices for treatment or harvest (i.e. thinning, prescribed burning, pre-commercial thinning, clearcutting, etc.). Limit clearcutting to 20 contiguous acres. Allow expanded clearcutting to address: 1) widespread disease (generally dwarf mistletoe) or insect infested (generally bark beetles or defoliators); or 2) where fire-killed timber can be salvaged. Extent of clearcutting in these two instances would be defined and evaluated during project specific NEPA analysis.
MA-FOR-09	Reforestation of logged forest stands would meet Best Management Practices for the State of Idaho.
MA-FOR-10	Determine reforestation of forest stands killed by wildfire through the fire-specific Burned Area Emergency Response Plan/Report with emphasis on recovering diverse and healthy forest stands.

Livestock Grazing	
Proposed Management	
Goals:	
GL-LG-01	Provide for livestock grazing opportunities while meeting or making significant progress towards Idaho Standards for Rangeland Health.
Objectives:	
OB-LG-01	Implement strategies for grazing systems, weed management, and restoration actions to promote achievement of Idaho Rangeland Health Standards.
OB-LG-02	Reduce risk of disease transmission between bighorn sheep and domestic sheep by utilizing best management practices for separation in coordination with the State of Idaho.
OB-LG-03	Utilize livestock grazing management to meet resource objectives such as reducing fuel loads and decreasing fire frequency.
OB-LG-04	Use Idaho Guidelines for Livestock Grazing Management in designing and implementing livestock grazing systems and management.
Management Actions:	
MA-LG-01	Conduct land health assessments in conjunction with the processing of grazing permits. Permit renewals may take into account analysis of additions or changes in livestock infrastructure or management, necessary to meet priority resource needs. Livestock forage allocation adjustments would consider a variety of factors, including but not limited to: 1) forage production, 2) annual grass prevalence; 3) trend data, and 4) other land ownerships within the pasture and/or allotment.
MA-LG-02	Design and implement range and vegetation improvement projects to meet or make significant progress toward meeting Idaho Standards for Rangeland Health in cooperation, consultation, and coordination with the grazing permittees and the interested public. Placement of rangeland improvement project infrastructure would augment and support grazing and resource management objectives.
MA-LG-03	Evaluate the placement and need of existing livestock management range improvement infrastructure with respect to grazing and resource management objectives. Consider removal of projects that are not needed for effective livestock management. Consider relocation of range improvements to meet resource objectives.
MA-LG-04	Maintenance of existing range improvement projects requiring ground disturbance beyond the spatial footprint of the improvement may only occur after site-specific analysis.
MA-LG-05	Evaluate post-fire grazing management on a case-by-case basis. Work cooperatively with permittees to implement management changes to meet resource objectives. Consider temporary closure, reduced use or modified livestock movement/rotations, or other control measures to avoid grazing within burned areas in pastures where 51 percent of more of the BLM/federal ownership was affected by wildfire. Consider modified livestock movement/rotations or other control measures to avoid grazing within burned areas in pastures where 50 percent or less of the BLM/federal ownership was affected by wildfire. Consider livestock grazing use to address annual grass growth and establishment post-fire towards reduction of future fuel loads.
MA-LG-06	Livestock grazing would be available across 783,160 acres in the PA (Map 2-2). Available AUMs throughout the PA: 106,168 An additional 9,635 AUMs would be available on the permit to be activated in pastures dominated by invasive annual grasses (Map 3-1) as a tool to maintain or improve ecological health and manage for a longer fire return interval (see MA-WFF-05).
MA-LG-07	Use a broad range of approaches (e.g., duration of use, AUMs, distribution of livestock, season of use) through grazing authorizations and permit renewals to maintain and enhance perennial plant abundance and diversity and to reduce productivity of invasive annual grasses.
MA-LG-08	Implement best management practices to reduce potential disease transmission between domestic sheep and bighorn sheep in bighorn sheep Population Management Units (PMUs) consistent with the Idaho Bighorn Sheep Management Plan (IDFG 2010). Consider change in kind of livestock from sheep to cattle in areas where best management practices for reducing risk of disease transmission are not effective (or are not likely to be effective) and where domestic sheep continue to pose an unacceptable risk to maintenance of the affected bighorn sheep population, based on risk analyses and coordination with the State of Idaho.

Livestock Grazing	
Proposed Management	
MA-LG-09	Coordinate with domestic sheep permittees and the State of Idaho to determine alternate trailing routes where best management practices to reduce risk of disease transmission are not effective (or not likely to be effective) and where domestic sheep continue to pose an unacceptable risk to maintenance of the affected bighorn sheep population, based on risk analyses and coordination with the State of Idaho in bighorn sheep Population Management Units (PMUs) consistent with the Idaho Bighorn Sheep Management Plan (IDFG 2010).
MA-LG-10	Incorporate BMPs (RDFs when in GRSG habitat) into Terms and Conditions for crossing permits to limit resource conflicts and/or disturbance when trailing livestock across BLM-administered lands. Work with permittees in locating over-nighting, watering, and bedding locations to minimize impacts.
MA-LG-11	Consider establishing Reserve Common Allotments (RCA) as lands are acquired, by agreement(s) with the permittee(s), or as permits are cancelled (permits would not be cancelled for the purpose of establishing an RCA). Consider utilizing permits currently in non-use for the temporary purpose of promoting rangeland resource protection (43 CFR 4130.2(g)(1) and (h)).
MA-LG-12	Design and implement the placement of salt/supplements and temporary water sources through coordination with permittee(s) to meet livestock management and resource management objectives.
MA-LG-13	When fully processing a grazing permit: ● Use a broad range of approaches (e.g., stocking levels, season of use, utilization levels) to achieve and meet objectives on rangelands dominated by perennial species. ● Consider grazing on rangelands dominated by annual plants (canopy cover of perennial grass species is <10 percent) or exhibiting increased fire frequency to reduce standing forage and fuels.
MA-LG-14	Following successful restoration activities, work with permittee(s) to adjust short term grazing management practices, if needed, to achieve long-term vegetation and resource objectives. If long-term grazing management modifications are warranted consider evaluation of the allotment as described in MA-LG-15.
MA-LG-15	Allotment and pasture boundaries may be modified, in coordination with the permittee(s), to facilitate the use of permitted livestock grazing to achieve fuels reduction objectives. Modifications may include aggregating allotments into larger allotments and realigning pasture boundary fences to concentrate livestock use for fuels reduction.
MA-LG-16	Consider issuance of Temporary Non-Renewable (TNR) permits with the following criteria: ● TNR may be allowed in years where additional forage for livestock is temporarily available, as determined by utilization levels; ● TNR must be consistent with the drought management guidelines; ● TNR may not be allowed within the operation of the applicant if grazing use criteria are exceeded in any pasture in planning area controlled by the applicant; and ● TNR must be consistent with other resource objectives.
MA-LG-17	Available livestock forage may change over the life of the RMP resulting from forage type conversions occurring in response to habitat restoration activities. Changes to AUMs in the future will be determined at the allotment scale based on monitoring and evaluation.
MA-LG-18	Adjust livestock grazing management through fully processed permits (MA-LG-15) when rangeland health assessments, monitoring data, or other scientific analysis indicates that changes in grazing management are needed and appropriate. Adjustments in livestock grazing may include a variety of approaches including, but not limited to changes in the number of livestock, the kind of livestock, the season-of-use (timing and duration), or the grazing system utilized (such as rotation system).

Recreation	
Proposed Management	
Goals:	
GL-REC-01	Manage recreational use to meet statutory requirements to ensure resource protection, ensure human health and safety, and reduce conflict, as well as achieve other program planning objectives.
GL-REC-02	The recreation program will produce a diversity of quality recreation opportunities that add to the recreation participant's quality of life while contributing to local economies.
GL-REC-03	Environmental education and volunteer project opportunities will enhance stakeholder-BLM shared stewardship of public lands and increase public awareness and appreciation of natural and cultural resource values.
GL-REC-04	Boise Front SRMA: Provide a high-quality system of trails for the enjoyment of Treasure Valley residents and visitors to the Boise Foothills while maintaining an open space environment to support public demand for open space, special status plant habitat, and big game winter range.
GL-REC-05	Payette River SRMA: Provide superior non-motorized whitewater rafting experiences and benefits to visitors to the Payette River.
GL-REC-06	Facilitate the long-term maintenance of big game wildlife populations and promote public access to support wildlife dependent recreation and hunting activities in the Bennett Hills BCA.
Objectives:	
OB-REC-01	Within the Boise Front SRMA, by the year 2025 and beyond, 80 percent of recreation assessment participants will indicate experiences and benefits mostly are realized (4 on scale of 1-5).
OB-REC-02	Within the Payette River SRMA, by the year 2025 and beyond, 80 percent of recreation assessment participants will indicate experiences and benefits mostly are realized (4 on scale of 1-5).
OB-REC-03	Within the Bennett Hills BCA, manage for primitive recreation in support of hunters and anglers and promote high quality wildlife-dependent recreation activities (e.g., trophy mule deer and upland bird hunting) to maintain and enhance wildlife habitats.
OB-REC-04	Within the Bennett Hills BCA, proposed activities would maintain or enhance the wildlife and access values of the area while also allowing for active management of authorized uses such as livestock grazing, forest management, minerals development and rights-of-way, etc.
OB-REC-05	Oxbow/Brownlee ERMA will offer a variety of water and upland recreation opportunities in a relatively unchanged scenic setting.
Management Actions: *Recreation Management Areas*	
MA-REC-01	Designate two SRMAs totaling 26,870 acres (Map 2-3): • Boise Front: 25,260 acres • Payette River (500 meter buffer along river): 1,610 acres
MA-REC-02	Designate the following recreation management areas: • Bennett Hills BCA: 85,930 acres • Oxbow/Brownlee ERMA: 36,820 acres
MA-REC-03	Activities associated with land use authorizations and mineral extraction would conform to VRM Class II objectives. Renewable energy projects would not be allowed within the Boise Front SRMA.
MA-REC-04	The Payette River SRMA would be managed in accordance with WSR guidance (see Special Designations).
MA-REC-05	Manage the Oregon National Historic Trail in accordance with National Historic Trail Guidance (see Special Designations) and remove the Oregon National Historic Trail SRMA designation.
MA-REC-06	Within the Oxbow/Brownlee ERMA, activities associated with land use authorizations and mineral material disposals would conform to VRM Class II and Class III objectives. The ERMA would be open to fluid mineral leasing subject to NSO restrictions within 0.5 miles of developed sites.

Recreation	
Proposed Management	
MA-REC-07	Recreation setting characteristics (remoteness, naturalness, contacts, group size, evidence of use, access, visitor services and management controls) for the Bennett Hills BCA will be managed as back country and the recreation setting characteristic of facilities would be managed as primitive in support of hunting, camping, and wildlife viewing as described by the BLM Planning for Recreation and Visitor Services Handbook (BLM 2014).
MA-REC-08	Manage the Bennett Hills BCA as VRM Class II.
MA-REC-09	LAUs and salable mineral extraction would be allowed within the Bennett Hills BCA, consistent with VRM Class II objectives and wildlife habitat timing restrictions as presented in Appendix D. Renewable energy projects would not be allowed.
MA-REC-10	Fluid mineral leasing would be allowed within the Bennett Hills BCA consistent with other resource program stipulations (see Map 2-9)
MA-REC-11	Allow motorized use (including over-snow vehicles) on existing routes only until a travel management plan is completed, with the exception that game retrieval could occur beyond existing or designated routes.
Management Actions: *Lands Not Designated as Recreation Management Areas*	
MA-REC-12	The following recreation sites would be designated as Day Use only. • Bonneville Point • North Fork Payette • Confluence • Upper Deer Creek • Lower Deer Creek • Chief Parrish • Beehive Bend • Parnell Beach (Porter Creek)
MA-REC-13	Prohibit camping within 50 feet of rockshelters and/or caves.
MA-REC-14	Developed recreation sites and the Clay Peak Cycle Park are open to fluid mineral leasing subject to NSO.

Travel and Transportation Management	
Proposed Management	
Goals:	
GL-TTM-01	Utilize a comprehensive approach to travel planning and management to sustain and enhance recreational opportunities and experiences, visitor access and safety, and resource conservation and use.
GL-TTM-02	Provide legal access to and through BLM-administered lands.
GL-TTM-03	Reduce impacts to wildlife habitat, conserve special status species, and maintain or restore natural plant communities through travel management planning.
GL-TTM-04	Manage the travel and transportation network to contain or reduce noxious weeds.
GL-TTM-05	Manage the travel and transportation network to maintain existing opportunities and pursue new opportunities for mineral resources.
GL-TTM-06	Maintain access for fire management.
GL-TTM-07	Provide access to a wide range of recreational opportunities across the PA.
Objectives:	
OB-TTM-01	In consideration of the various resources, resource uses, and special designations, all BLM-administered lands within the Four Rivers Field Office will be designated as OHV open, OHV limited, or OHV closed in accordance with procedures outlined in 43 CFR 8342.1.

Travel and Transportation Management	
Proposed Management	
OB-TTM-02	Access to BLM-managed lands would be allowed, while protecting sensitive natural resources, providing for visitor safety, and minimizing user conflicts.
OB-TTM-03	Establish a long-term, sustainable, multimodal travel network and transportation system of areas, roads, primitive roads, trails, and other transportation linear features that address the need for public, authorized, and administrative access to and across BLM-managed lands and related waters.
OB-TTM-04	Support the agency's mission and land use planning goals and objectives to manage travel and transportation to provide for resource management, public and administrative access, and transportation needs, and to promote sustainable landscapes for future generations.
OB-TTM-05	During subsequent implementation-level travel and transportation management planning, design and designate a transportation system to minimize adverse effects on sensitive resources. Locate areas and trails to minimize impacts to sensitive resources using the designation criteria found in 43 CFR 8342.1. Focus on developing a transportation system that provides for public access to public land resources and connectivity to other places and communities, while providing for experiences for public land visitors which complement management goals and objectives for public land resources in the PA. Individual route designations will occur during subsequent travel management planning efforts.
OB-TTM-06	All travel management designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands.
OB-TTM-07	The travel management designations will be in accordance but not limited to the following criteria: ● Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability. ● Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect Endangered or Threatened species and their habitats. ● Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors. ● Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established.
Management Actions:	
MA-TTM-01	The PA would be divided into six (6) Travel Management Areas (TMAs) to facilitate travel and transportation planning at a more local level. Travel and transportation management plans (TMPs) would be developed for each of the TMAs that serves recreational, administrative, and commercial uses and reduces impacts on natural and cultural resources. Identification of TMAs is done only to identify how implementation-level travel planning efforts will be approached. TMAs can be changed at any time as needed to focus TTM efforts appropriately in the future. The six TMAs would be: ● Boise River TMA: 95,387 acres ● Indian Valley TMA: 226,600 acres ● Snake River TMA: 56,980 acres ● Weiser TMA: 72,521 acres ● Bennett Hills TMA: 292,773 acres ● River Forks TMA: 34,364 acres Criteria for completing TMPs are found in Appendix H.

Travel and Transportation Management	
Proposed Management	
MA-TTM-02	OHV Area Designations (Map 2-4): ● Open: 2,940 acres ● Limited: 750,100 acres ● Closed: 30,120 acres
MA-TTM-03	OHV travel may be permitted off-road for administrative purposes and permitted used (as described in the site-specific permit) subject to Authorized Officer approval and resource specific limitations (such as slickspot peppergrass habitat conservation).
OHV - Limited Area Designation	
MA-TTM-04	OHV travel would be limited to existing roads, primitive roads, and trails until such time as travel management planning is complete and routes are either designated or closed.
MA-TTM-05	Danskin Peak Lookout access road would be seasonally limited or closed to vehicles due to wet road conditions (closed January 2-April 10). Existing seasonal closures would remain in effect (see Special Designations).
MA-TTM-06	There would be seasonal road closures on Highland Valley and Shaw Mountain roads from December 15-April 1; Upper 8th Street would be closed to OHVs from December 1- May 15 in wet winters.

Lands and Realty	
Proposed Management	
Goals:	
GL-LR-01	Manage public lands to provide land tenure adjustments, classifications, withdrawals, easements, purchased interest, acquisitions, and land use authorizations consistent with other resource uses and values.
Objectives:	
OB-LR-01	Provide for the development of renewable energy resources, transportation routes, utility corridors, transmission lines, communication sites, and other uses with consideration for resource objectives.
OB-LR-02	Improve BLM's ability to manage the land base and resource values and help meet resource objectives through land tenure adjustments.
Management Actions: *Land Tenure*	
MA-LR-01	Acquired lands or interest in lands would be managed consistent with the purpose for which they were acquired, or if no specific purposes were identified, consistent with adjacent or nearby public lands.
MA-LR-02	Consider and prioritize acquisitions and exchanges that would enhance public access or improve management of wildlife and riparian habitat areas by consolidating public land.
MA-LR-03	Appendix I lists legal land descriptions of isolated tracts of public land that BLM has identified as meeting the disposal criteria in section 203 of FLPMA. Parcels greater than 160 acres would not be available for disposal under section 203 of FLPMA. Parcels greater than 1,200 acres would not be available for disposal under section 206 of FLPMA (Map 2-5).
MA-LR-04	The PA would be closed to agricultural entry, including Desert Land Act and Carey Act applications.
Management Actions: *Withdrawals*	
MA-LR-05	Withdrawals that no longer serve their established purpose would be recommended for modification, revocation, or relinquishment. Prior to modification, revocation, or relinquishment, withdrawn lands would be reviewed to determine if other resource values or uses require withdrawal protection. If warranted, a withdrawal action would be pursued as appropriate.

Lands and Realty	
Proposed Management	
MA-LR-06	Upon relinquishment, revocation, or modification of a withdrawal, manage opened lands consistent with adjacent or nearby public lands and in accordance with resource goals and objectives.
Management Actions: *Land Use Authorizations (including rights-of-ways [ROWs], Leases)*	
MA-LR-07	LUA Restrictions (Map 2-6): ● General LUA Avoidance: 623,460 acres ● General LUA Exclusion: 23,270 acres
Management Actions: *Utility Corridors*	
MA-LR-08	Existing designated corridors, including Section 368 Corridors, will remain open in all habitat management areas.
MA-LR-09	Locate proposed utility transportation developments (i.e., electric transmission lines, oil and gas pipelines) within designated corridors whenever feasible.
Management Actions: *Renewable Energy*	
MA-LR-10	ROW Restrictions for Solar Development (Map 2-7): ● Solar Energy Avoidance: 469,500 acres ● Solar Energy Closed: 180,280 acres
MA-LR-11	ROW Restrictions for Wind Development (Map 2-8): ● Wind Energy Avoidance: 352,720 acres ● Wind Energy Exclusion: 297,050 acres

Mineral Resources	
Proposed Management	
Goals:	
GL-MR-01	Opportunities for exploration and development of leasable minerals would be compatible with other resource uses while protecting the natural environment.
Objectives:	
OB-MR-01	Opportunities for exploration and development of fluid and solid leasable minerals would be provided.
OB-MR-02	Minerals on lands acquired by other federal agencies shall only be leased with the concurrence of the surface management agency.
Management Actions: *Federal Fluid Mineral Estate (Oil, gas, and geothermal)*	
MA-MR-01	Fluid Leasable Minerals (Map 2-9): ● Open with standard lease terms: 493,310 acres ● Open with CSU/TLS: 525,530 acres ● Open with NSO: 133,490 acres ● Closed: 23,270 acres
MA-MR-02	All lands open to oil and gas leasing consideration would also be open to geophysical exploration, subject to appropriate resource surveys, surface protection measures, and adequate bonding.

Mineral Resources	
Proposed Management	
MA-MR-03	The lessee's right to use the leased lands for fluid mineral exploration and development is subject to stipulations attached to the lease; restrictions deriving from specific, nondiscretionary statutes; and such reasonable measures needed to minimize impacts to other resources and resource users not addressed in the lease stipulations at the time operations are proposed. Oil and gas lease stipulations may be modified or eliminated only if the BLM determines that the factors leading to its inclusion in the lease have changed sufficiently to make the protection provided by the stipulation no longer justified or if proposed operations would not cause unacceptable impacts, using the exception, modification, or waiver criteria described in Appendix G. All mineral leases will include standard stipulations (Appendix C) for the protection of the following resources: ● Cultural Resources ● Threatened, Endangered, and/or Candidate Species Habitat under the Endangered Species Act ● Air Quality ● Migratory Birds The following stipulations shall be attached to leases as site-specific conditions warrant: ● Slopes greater than 40 percent ● Soils with a severe erosion hazard rating ● Soils with limited reclamation potential ● Lands within 500-feet of perennial streams, riparian areas, wetlands, or springs ● 100-year floodplains ● Paleontological Resources
MA-MR-04	Parcels nominated for lease will be evaluated prior to lease offering to determine if development is feasible. Parcels will not be offered for lease if buffers and restrictions preclude development in the leasing area.
MA-MR-05	Complete a Master Development Plan, consistent with plan development guide on leases where a producing field is proposed to be developed.
MA-MR-06	On geothermal leases: Seasonal restrictions for surface disturbing or disruptive activities would be applied in accordance with the seasonal timing stipulations in Appendix G.
MA-MR-07	All fluid mineral leases will include standard stipulations for groundwater resources. All critical groundwater areas, as determined by IDWR are open to fluid mineral leasing subject to NSO constraints.
Management Actions: *Fluid Mineral Split Estate (Oil, gas, and geothermal)*	
MA-MR-08	BLM owns mineral estate – non-federal surface owner: Where the federal government owns the mineral estate and the surface is in non-federal ownership, apply the same stipulations, COAs, and/or conservation measures if the mineral estate is developed on BLM-administered lands in that management area, to the maximum extent permissible under existing authorities, in coordination with the landowner.
MA-MR-09	BLM owns surface – non-federal mineral estate owner: Where the federal government owns the surface and the mineral estate is in non-federal ownership, apply appropriate surface use COAs, stipulations through LUA grants or other surface management instruments, to the maximum extent permissible under existing authorities, in coordination with the mineral estate owner/lessee.
Management Actions: *Solid Leasable Minerals*	
MA-MR-10	Public land use restrictions for solid leasable minerals (i.e., open to leasing subject to the standard lease terms and conditions, closed, and open with seasonal restrictions) would be applied the same as described under fluid leasable minerals, except that lands managed with a NSO stipulation for fluid leasables would be managed as closed to solid leasables (see Appendix Y, Table Y-1).

Mineral Resources	
Proposed Management	
MA-MR-11	Plan decisions that would avoid or minimize adverse environmental impacts from federally authorized mineral activity would apply to split-estate lands. If split-estate lands are nominated for leasing, the surface owner would be notified of the impending lease sale.
Locatable Minerals	
Goals:	
GL-LOC-01	Opportunities for exploration and development of locatable minerals would be provided while protecting other resource values.
Objectives:	
OB-LOC-01	Opportunities for exploration and development of locatable mineral deposits would be provided.
Management Actions:	
MA-LOC-01	Public lands would be open to mineral location, subject to restrictions imposed to protect other resource values. There would be opportunity for development of locatable mineral resources by keeping public land open to mineral location and development, except in selected administrative and/or developed recreational sites. Apply reasonable and appropriate conservation measures to locatable minerals, to the extent consistent with applicable law to prevent unnecessary or undue degradation of public lands when a Plan of Operations is submitted in accordance with 43 CFR 3809.411(d)(2)
Salable Minerals	
Goals:	
GL-SAL-01	Opportunities for exploration and development of mineral material sites would be provided while protecting other resource values.
Objectives:	
OB-SAL-01	Sand, gravel, cinders, clay, bentonite, fill material, and building stone would be available to meet the infrastructure and maintenance needs of local and State governments, industry, and individuals, as the demand warrants, while protecting other resource values.
Management Actions:	
MA-SAL-01	New mineral material disposals would not be allowed on 48,100 acres. Areas open to mineral material disposals would be subject to appropriate timing and distance restrictions in accordance with Appendix D, Seasonal Wildlife Restrictions (Map 2-10).
MA-SAL-02	Mineral material extraction from compatible, active mineral sites would be authorized, if adequate material is present. New mineral material sites would be designated as local demand increases if compatible with other resource uses and values. Inactive sites would be reopened as warranted.

Hazardous Materials and Public Safety	
Proposed Management	
Goals:	
GL-HMPS-01	Human health and safety would be prioritized and environmental damage from hazardous materials and other hazards would be prevented or rehabilitated on public land.
Objectives:	
OB-HMPS-01	The occurrence and severity of hazardous materials incidences on public land would be reduced to protect public health and safety and reduce the risk to the environment.
OB-HMPS-02	Public health and safety would be protected from hazards associated with abandoned mine lands, debris flows, and other physical safety hazards.
OB-HMPS-03	Public lands would continue to be inventoried for AML sites and potential hazards. Sites would be remediated while protecting associated natural and cultural resources.

Hazardous Materials and Public Safety	
Proposed Management	
Management Actions:	
MA-HMPS-01	Identify and mitigate illegal hazardous material disposal sites and hazardous materials spills in accordance with applicable Federal, State, and local regulations. Develop interagency agreements with local law enforcement agencies to facilitate the enforcement of illegal hazardous material disposal and hazardous material laws. Coordinate with local government agencies during hazardous material prevention and response activities.
MA-HMPS-02	Ensure that public lands are managed to protect the public from safety and environmental hazards associated with AMLs and improve the health of lands damaged by AMLs. Inventory AML sites for safety and environmental hazards and reduce or mitigate these hazards.
MA-HMPS-03	In the Long-billed Curlew ACEC, work with partners on outreach programs to prevent illegal shooting of wildlife.
MA-HMPS-04	Discharging of firearms would not be allowed within 0.25-miles of developed recreation sites, designated OHV open areas, and the Payette SRMA except with a BLM special recreation permit.
MA-HMPS-05	The prohibition on the discharge of firearms of any kind does not prohibit the use of firearms within BLM-managed public lands for hunting in compliance with licensing, hunting seasons, weapon restrictions, and other State of Idaho legal requirements.

Special Designations - Back Country Byways and National Historic Trails	
Proposed Management	
Goals:	
GL-NT-01	Areas with natural, historic, cultural, scenic, or recreational value that might otherwise be lost or irreparably damaged would be managed to protect those values. The Oregon National Historic Trail, Goodale's Cutoff, and Kelton Road (referred to as the Oregon NHT Management Corridor) would be managed to preserve and protect the historic, scenic, and recreational values associated with the trails.
Objectives:	
OB-NT-01	Protect, preserve, and provide opportunities to experience the historic, scenic, and recreational values of the Oregon NHT Management Corridor.
Management Actions:	
MA-NT-01	Coordinate management of byways and trails that have been designated or are subsequently designated by the State of Idaho, the National Byways program, and the National Recreation Trails program as state and national scenic byways and trails that pass through BLM-managed lands.
MA-NT-02	Prohibit OHV use on the Weiser River NRT with the exception of maintenance and repair of the trail and other administrative uses.
Management Actions: *Oregon National Historic Trail*	
MA-NT-03	Manage all segments of the Oregon NHT and Goodale's Cutoff (including contributing segments) as National Historic Trails. Manage Kelton Road (12 miles outside the Oregon NHT including 5 miles considered contributing segments) as if it were listed on the National Register of Historic Places.
MA-NT-04	Update the BLM's 1984 Oregon Trail Management Plan and ensure consistency with the National Park Service's 1999 Oregon NHT Comprehensive Management and Use Plan. Until the 1984 plan is updated and unless otherwise directed in the RMP, continue to manage the Trail in accordance with the 1984 plan and BLM policy, and in cooperation with the National Park Service.
MA-NT-05	Manage the area 2 miles on either side of contributing segments as the Oregon NHT Management Corridor (137,700 acres BLM-administered lands), and manage 0.25 miles or to the visual horizon (whichever is narrower) on either side of contributing segments within the Management Corridor as the Oregon NHT Protective Zone (24,910 acres BLM-administered lands) (Map 2-11).

Special Designations - Back Country Byways and National Historic Trails	
Proposed Management	
MA-NT-06	In the Oregon NHT Protective Zone and Management Corridor: 1) designated routes may follow or cross the Oregon NHT in areas where previous disturbance has occurred, after consultation with the SHPO; 2) where vehicle use is allowed within the Oregon NHT Management Corridor, travel would not degrade the trail or its setting; 3) modify or close routes that are degrading the trail setting; 4) minimize visual impacts from designated routes; 5) consider new routes that replace more visually intrusive routes.
MA-NT-07	Prohibit staging areas for recreational activities and events in the Oregon NHT Protective Zone.
MA-NT-08	Close the Oregon NHT Protective Zone to new salable mineral development (24,820 acres). Existing salable mineral developments could be renewed but spatial extent (footprint) would not be expanded.
MA-NT-09	The Oregon NHT Protective Zone would be open to fluid mineral leasing with a NSO stipulation. The Oregon NHT Management Corridor would be open to fluid mineral leasing subject to the following stipulation: ● Development and production activities would be consistent with VRM management direction.
MA-NT-10	Incorporate reasonable and appropriate design features and protective approaches consistent with applicable law to prevent unnecessary or undue degradation of the Oregon NHT Protective Zone. Design actions in the Management Corridor to avoid visual impacts to the Protective Zone.
MA-NT-11	LUAs would be allowed within the Oregon NHT Management Corridor subject to the following restrictions: ● New surface or overhead LUAs would co-locate with existing LUAs or disturbance corridors, as practicable. ● Underground LUAs would be allowed with appropriate design features within the NHT Management Corridor and would bore under high-quality ruts in the NHT Protective Zone. ● A new large-scale linear LUA with multi-jurisdictional impacts would be allowed where the alignment is constrained or determined by external factors make avoidance impractical or infeasible. ● Highly visible projects or projects out of scale with the surrounding would be allowed consistent with VRM management Additional mitigation and BMPs will be developed in response to site-specific proposals.
MA-NT-12	The Oregon NHT Protective Zone would be solar and wind energy LUA exclusion zones (24,910 acres). The Oregon NHT Management Corridor would be a wind energy LUA exclusion zone and solar energy LUA avoidance zone (137,700 acres). Solar energy LUA could be granted in the Oregon NHT Management Corridor consistent with MA-NT-11.
MA-NT-13	With the exception of exclosures, the Oregon NHT Protective Zone and Management Corridor would be Available to livestock grazing.
MA-NT-14	Locate supplements and temporary grazing infrastructure outside the Oregon NHT Protective Zone for livestock uses permitted under 43 CFR § 4100. Place new permanent grazing infrastructure (e.g., troughs, reservoirs, fences, holding facilities) outside the Oregon NHT Protective Zone unless designed to minimize trailing, trampling, and visual impacts to contributing features.
MA-NT-15	Do not conduct surface-disturbing activities, utilize surface-disturbing equipment, such as bulldozers and road graders, or establish staging areas for fire or ESR activities within the Oregon NHT Protective Zone, unless to protect life or property in emergency situations.
MA-NT-16	Prescribed fire could be considered in the Oregon NHT Management Corridor.
MA-NT-17	Emphasize seeding techniques that minimize ground disturbance and avoid ground-disturbing activities near trail remnants for vegetation treatment projects in the Oregon NHT Management Corridor (162,610 acres).

Special Designations - Wild and Scenic Rivers	
Proposed Management	
Goals:	
GL-WSR-01	Manage river segments determined to be suitable for Congressional designation and inclusion in the National WSR System consistent with maintaining the free-flowing character and preserving or enhancing their outstandingly remarkable values (ORVs).

Special Designations - Wild and Scenic Rivers	
Proposed Management	
Objectives:	
OB-WSR-01	Manage segments determined suitable to protect their ORVs until Congress either designates the segments or releases them from consideration.
Management Actions:	
MA-WSR-01	The following segments have been inventoried as eligible for inclusion in the National WSR system and have been identified with an associated tentative classification: South Fork of the Payette River (Middle Fork confluence to Banks) as recreational (8 miles); North Fork Payette River (Cascade Dam to USFS Boundary) as recreational (28 miles); Payette River (Banks to Horseshoe Bend) as recreational (15 miles); Snake River (King Hill and Three Island reaches to Hammett) as recreational (19 miles); West Fork King Hill Creek (headwaters to King Hill Creek) as wild (11 miles); King Hill Creek (WSA boundary in T3S, R11E, Sect 18 - Snake River) as wild (8 miles in WSA) and recreational (2 miles outside WSA) (Map 2-12).
MA-WSR-02	Manage eligible segments to maintain or enhance free-flowing conditions (i.e., water impoundments, diversions, or hydroelectric facilities) and ORVs. Specific actions may be considered to resolve public safety or health risks (i.e., stream impoundments, channelization, and/or riprapping along BLM shorelines).
MA-WSR-03	Designate WSR corridors to extend either the average distance of 0.25 mile from the high-water mark on each side of eligible segments (BLM Manual 6400); or the distance to the nearest confined canyon rim, whichever is shorter.
MA-WSR-04	Conduct suitability studies and make suitability determinations on eligible river segments within the planning area; coordinate suitability studies with adjacent landowners and the State of Idaho. Protect or enhance the qualifying values of eligible river segments pending a subsequent suitability determination or designation decision by Congress. Their free-flowing condition cannot be modified, their ORVs and water quality are to be maintained or enhanced, and their tentative classification is to be maintained. Upon Congressional action regarding suitable segments, management would reflect one of the two potential outcomes: 1) designation as a WSR – management would continue to follow guidance for WSR segments described in this RMP; 2) release – management identified for WSR segments in this RMP would no longer apply and those segments would be managed according to non-WSR direction in the other sections of the RMP for adjacent lands.
MA-WSR-05	Construction of new permanent roads or trails that do not impair ORVs may be considered in WSR Corridors.
MA-WSR-06	Within Recreational WSR Corridors: Development of new salable mineral sites that do not impair ORVs would be limited to ≤2 acres and VRM Class II-IV areas. Within Wild WSR Corridors: No salable mineral extraction would be allowed.
MA-WSR-07	Designate WSR Corridors as open to fluid mineral leasing with a NSO stipulation.
MA-WSR-08	Incorporate reasonable and appropriate design features and protective approaches consistent with applicable law to prevent unnecessary or undue degradation of ORVs when developing plans of operation and development.
MA-WSR-09	Co-locate new LUAs within existing LUAs when possible or minimize impacts to ORVs when co-location is not possible.
MA-WSR-10	The WSR Corridors would be available for livestock grazing except areas outside existing allotments adjacent to the Snake River.
MA-WSR-11	Consider use of prescribed fire if it supports natural processes, maintains, or enhances ORVs, and does not encourage invasive species.
MA-WSR-12	Implement fuels treatment activities to minimize adverse impacts to ORVs. Fuel break treatments would not occur within segments recommended as wild.

Special Designations - Wilderness Study Areas	
Proposed Management	
Goals:	
GL-WSA-01	Manage WSAs under the non-impairment standard such that they remain suitable for designation as wilderness.
Management Actions:	
MA-WSA-01	Manage WSAs in accordance with BLM Manual 6330, Management of Wilderness Study Areas until Congress acts to either designate one or both WSAs as Wilderness or releases them from further consideration.
MA-WSA-02	If released from further wilderness consideration by Congress, manage Box Creek WSA in coordination with the State of Idaho and manage King Hill Creek WSA as an area with OHV limited to designated roads and trails.
MA-WSA-03	The King Hill Creek and Box Creek WSAs would be closed to motorized vehicle use.
MA-WSA-04	Existing routes/trails would be closed and/or rehabilitated.
MA-WSA-05	The WSAs would be closed to mineral material disposals.
MA-WSA-06	The WSAs would be closed to fluid mineral leasing.
MA-WSA-07	With the exception of inholding access, LUAs would be excluded in the King Hill Creek and Box Creek WSAs. The WSAs would be an exclusion area for renewable energy.
MA-WSA-08	The King Hill Creek WSA and Box Creek WSA would be available for livestock grazing.
MA-WSA-09	Remove unnecessary range improvement projects where possible from the King Hill Creek WSA and Box Creek WSA.
MA-WSA-10	Do not use prescribed fire within the King Hill Creek WSA unless necessary as a site preparation action leading to subsequent restoration activities.
MA-WSA-11	Conduct restoration efforts and use appropriate methods where they are required to maintain or enhance wilderness values.

Special Designations - Lands with Wilderness Characteristics	
Proposed Management	
Goals:	
GL-LWC-01	Minimize and reduce impacts to areas with naturalness, opportunities for solitude, and primitive and unconfined recreation.
Objectives:	
OB-LWC-01	Minimize and reduce impacts to lands with wilderness characteristics by maintaining naturalness, solitude, and primitive and unconfined recreation.
Management Actions:	
MA-LWC-01	Manage the Sheep Mountain/Wildhorse River area (7,940 acres) for existing values and multiple-use.
MA-LWC-02	OHV use would be designated as Limited in the Sheep Mountain/Wildhorse River area. Individual routes would be designated in a future travel management plan.
MA-LWC-03	The Sheep Mountain/Wildhorse River area would be open to mineral material disposals, avoid surface-disturbing activities larger than 2 acres or not adjacent to existing or designated routes.
MA-LWC-04	Sheep Mountain/Wildhorse River area would be open to fluid mineral leasing.
MA-LWC-05	LUAs in the Sheep Mountain/Wildhorse River area would be allowed with co-location with existing LUAs a primary consideration.
MA-LWC-06	Remove unnecessary range improvement projects where possible from the Sheep Mountain/Wildhorse River area.
MA-LWC-07	Avoid use of ground disturbing techniques, other than hand-lines in the Sheep Mountain/Wildhorse area unless use would prevent more significant resource loss or damage.

Special Designations - Areas of Critical Environmental Concern	
Proposed Management	
Goals:	
GL-ACEC-01	Use various management approaches (including special designation) in areas with relevant and important resource values (e.g., natural, historic, cultural, scenic, or recreational), that might otherwise be lost or irreparably damaged, to maintain values. Consider or maintain special designation if required to protect identified values (Map 2-13).
Objectives Common to All Alternatives:	
OB-ACEC-01	ACECs would be managed to maintain, enhance, and protect relevant and important resource values.
Management Actions Common to All ACECs:	
MA-ACEC-01	Manage lands acquired adjacent to or surrounded by existing ACECs and which meet relevance and importance criteria in accordance with management guidance for the ACEC.
MA ACEC-02	Treat for grasshopper or Mormon cricket control within ACECs as necessary and when consistent with relevant and important values.
Management Actions: *Bannister Basin ACEC*	
MA-BB-ACEC-01	Manage the Bannister Basin area according to special status species direction. Do not designate as an ACEC.
Management Actions: *Boise Front ACEC*	
MA-BF-ACEC-01	Retain the Boise Front ACEC designation (15,080 acres).
MA-BF-ACEC-02	Overnight camping and campfires would not be allowed in the Boise Front ACEC.
MA-BF-ACEC-03	The Boise Front ACEC would be an exclusion area for renewable energy (solar installations, wind turbines/towers) or precursors such as meteorological towers.
MA-BF-ACEC-04	The Boise Front ACEC would be open to fluid mineral leasing subject to no surface occupancy stipulations.
MA-BF-ACEC-05	Livestock grazing would be allowed within the Boise Front ACEC.
Management Actions: *Buckwheat Flats ACEC*	
MA-BW-ACEC-01	Remove the Buckwheat Flats RNA designation and manage according to special status species direction. Do not designate as an ACEC.
MA-BW-ACEC-02	Close the Buckwheat Flats area to OHV use.
Management Actions: *Cartwright Canyon ACEC*	
MA-CC-ACEC-01	Remove Cartwright Canyon ACEC designation and manage according to special status species direction.
Management Actions: *Cherry Gulch ACEC*	
MA-CG-ACEC-01	The Cherry Gulch area would be managed according to special status species direction. Do not designate as an ACEC.

Special Designations - Areas of Critical Environmental Concern	
Proposed Management	
Management Actions: *Hixon Columbian Sharp-tailed Grouse Habitat ACEC*	
MA-CST-ACEC-01	Retain and expand the Hixon Columbian Sharp-tailed Grouse Habitat ACEC (18,660 acres).
MA-CST-ACEC-02	Limit OHV use to existing or designated routes.
MA-CST-ACEC-03	New permanent roads could be constructed based on travel management planning outcomes to reduce impacts to relevant and important values.
MA-CST-ACEC-04	Allow mineral material disposals on sites ≤2 acres and subject to timing and distance restrictions as described in Appendix D.
MA-CST-ACEC-05	The Hixon Columbian Sharp-tailed Grouse Habitat ACEC is open to fluid mineral leasing with timing stipulations for CSTG as described in Appendix E.
MA-CST-ACEC-06	The Hixon Columbian Sharp-tailed Grouse Habitat ACEC would be open to locatable mineral entry.
MA-CST-ACEC-07	Allow ROW construction and maintenance activities subject to timing and distance restrictions as described in Appendix D. Authorize new above-ground facilities if co-located with existing above-ground facilities or are >0.5 miles from key breeding and brood-rearing habitats and equipped with anti-raptor perching devices.
MA-CST-ACEC-08	Exclude renewable energy, including wind and solar, within the Hixon Columbian Sharp-tailed Grouse Habitat ACEC.
MA-CST-ACEC-09	The Hixon Columbian Sharp-tailed Grouse Habitat ACEC would be available for livestock grazing.
MA-CST-ACEC-10	Manage livestock grazing to maintain habitat conditions for Columbian Sharp-tailed grouse.
Management Actions: *Goodrich Creek ACEC*	
MA-GC-ACEC-01	Remove the Goodrich Creek RNA designation and manage according to special status species direction. Do not designate as an ACEC.
Management Actions: *Hulls Gulch ACEC*	
MA-HG-ACEC-01	Incorporate the Hulls Gulch ACEC into the Boise Front ACEC.
Management Actions: *King Hill Creek ACEC*	
MA-KH-ACEC-01	Remove the King Hill Creek ACEC designation.
Management Actions: *Long-billed Curlew Habitat ACEC*	
MA-LC-ACEC-01	Retain but reduce the Long-billed Curlew Habitat ACEC (26,810 acres).
MA-LC-ACEC-02	Limit OHV use to existing or designated routes.
MA-LC-ACEC-03	Limited road construction would be allowed; evaluation would be on a site-specific basis.

Special Designations - Areas of Critical Environmental Concern	
Proposed Management	
MA-LC-ACEC-04	Open the Long-billed Curlew Habitat ACEC to mineral material disposals subject to the following: ● Exclude surface-disturbing activities within 0.25 miles of key nesting and brood-rearing habitat. ● Close to use (except for emergencies) from March 1- June 30. ● Limit new sites to up to 5 acres.
MA-LC-ACEC-05	The Long-billed Curlew Habitat ACEC would be open to fluid mineral leasing. Surface-disturbing and disruptive activities would not be allowed from March 1- June 30.
MA-LC-ACEC-06	Limit ROW construction and maintenance activities to outside nesting and brood-rearing periods (March 1- June 30). Close the Long-billed Curlew Habitat ACEC to solar and wind energy ROWs.
MA-LC-ACEC-07	Manage livestock grazing to improve curlew habitat (where vegetation is too tall/dense).
Management Actions: *Lost Basin Grassland ACEC*	
MA-LB-ACEC-01	Remove the Lost Basin Grassland RNA designation and manage according to special status species direction. Do not designate as an ACEC.
MA-LB-ACEC-02	Limit OHV use to existing or designated routes.
Management Actions: *Mountain Home ACEC*	
MA-MH-ACEC-01	Manage the Mountain Home area according to special status species direction. Do not designate as an ACEC.
Management Actions: *Rebecca Sandhill ACEC*	
MA-RS-ACEC-01	Remove the Rebecca Sandhill RNA designation and manage according to special status species direction. Do not designate as an ACEC.
MA-RS-ACEC-02	Limit OHV use to existing or designated routes.
Management Actions: *Sand-capped Knob ACEC*	
MA-SK-ACEC-01	Remove the Sand-capped Knob ACEC designation and manage according to special status species direction.
Management Actions: *Sand Hollow ACEC*	
MA-SH-ACEC-01	Remove the Sand Hollow ACEC designation and manage according to special status species direction.
Management Actions: *Sheep Creek ACEC*	
MA-SC-ACEC-01	Manage the Sheep Creek area according to special status species direction. Do not designate as an ACEC.
Management Actions: *Summer Creek ACEC*	
MA-SuC-ACEC-01	Remove the Summer Creek RNA designation and manage according to special status species direction. Do not designate as an ACEC.

Special Designations - Areas of Critical Environmental Concern	
Proposed Management	
Management Actions: *Willow Creek ACEC*	
MA-WC-ACEC-01	Remove the Willow Creek ACEC designation and manage according to special status species direction.
Management Actions: *Woods Gulch ACEC*	
MA-WG-ACEC-01	Remove the Woods Gulch ACEC designation and manage according to special status species direction.

Table 2.2 Summary of Environmental Consequences by Alternative

	Proposed Plan	Alternative A	Alternative B	Alternative C	Alternative D
Vegetation	Up to 51,360 acres of restoration; up to 74,600 acres of wildfire related disturbance; up to 58,700 acres of non-wildfire related disturbance	Up to 34,515 acres of restoration; up to 85,210 acres of wildfire related disturbance; up to 57,380 acres of non-wildfire related disturbance	Up to 46,165 acres of restoration; up to 80,000 acres of wildfire related disturbance; up to 51,600 acres of non-wildfire related disturbance	Up to 43,085 acres of restoration; up to 86,500 acres of wildfire related disturbance; up to 62,800 acres of non-wildfire related disturbance	Up to 51,360 acres of restoration; up to 74,600 acres of wildfire related disturbance; up to 58,700 acres of non-wildfire related disturbance
Special Status Wildlife	All special status wildlife would be protected through implementation of seasonal restrictions during important times of the year. Low potential for impacts from projects implemented outside of timing restrictions.	All special status wildlife would be protected through implementation of seasonal restrictions during important times of the year. High potential for impacts from projects implemented outside of timing restrictions.	All special status wildlife would be protected through implementation of seasonal restrictions during important times of the year. Low potential for impacts from projects implemented outside of timing restrictions.	All special status wildlife would be protected through implementation of seasonal restrictions during important times of the year. Low potential for impacts from projects implemented outside of timing restrictions.	All special status wildlife would be protected through implementation of seasonal restrictions during important times of the year. Low potential for impacts from projects implemented outside of timing restrictions.
Special Status Plants	Management described in the applicable Conservation Agreement with USFWS for slickspot peppergrass populations has been incorporated into the Proposed Plan. Special status plant populations would be protected from surface disturbing activities.	All slickspot peppergrass populations will be managed in accordance with the applicable Conservation Agreement with USFWS. All Type 1-4 special status plants will be protected through restrictions on surface disturbing activities.	All slickspot peppergrass populations will be managed in accordance with the applicable Conservation Agreement with USFWS. All Type 2-3 EOs would be protected from all surface disturbing activities.	All slickspot peppergrass populations will be managed in accordance with the applicable Conservation Agreement with USFWS. Special status plant populations would be protected from surface disturbing activities.	All slickspot peppergrass populations will be managed in accordance with the applicable Conservation Agreement with USFWS. Special status plant populations would be protected from surface disturbing activities.
Fish and Wildlife	All wildlife habitats would be protected through implementation of seasonal restrictions during important times of the year. Disease transmission from domestic sheep to bighorn sheep would be addressed in coordination with the	All wildlife habitats would be protected through implementation of seasonal restrictions during important times of the year. High potential for disease transmission from domestic sheep to bighorn sheep.	All wildlife habitats would be protected through implementation of seasonal restrictions during important times of the year. Low potential for disease transmission from domestic sheep to bighorn sheep.	All wildlife habitats would be protected through implementation of seasonal restrictions during important times of the year. Moderate potential for disease transmission from domestic sheep to bighorn sheep.	All wildlife habitats would be protected through implementation of seasonal restrictions during important times of the year. Moderate potential for disease transmission from domestic sheep to bighorn sheep.

	Proposed Plan	Alternative A	Alternative B	Alternative C	Alternative D
	State of Idaho consistent with the Idaho Bighorn Sheep Management Plan.				
Aquatic Resources	High potential to protect riparian vegetation, fisheries, and water quality. Moderate potential to improve streams and springs.	Moderate potential to protect riparian vegetation, fisheries, and water quality. Low potential to improve streams and springs	High potential to protect riparian vegetation, fisheries, and water quality. High potential to improve streams and springs.	High potential to protect riparian vegetation, fisheries, and water quality. Moderate potential to improve streams and springs.	High potential to protect riparian vegetation, fisheries, and water quality. Moderate potential to improve streams and springs.
Wild Horses	Moderate potential for competition between wild horses and livestock.	Moderate potential for competition between wild horses and livestock.	High potential for competition between wild horses and livestock	No potential for competition between wild horses and livestock.	Moderate potential for competition between wild horses and livestock.
Wildfire Ecology and Fuels	Low potential for wildfire impacts to values at risk due to emphasis on implementation of fuels treatments in high risk areas.	Moderate potential for wildfire impacts to values at risk due to moderate limitations on fuels treatments	Highest potential for wildfire impacts to values at risk due to greatest limitations on fuels treatments.	Low potential for wildfire impacts to values at risk due to emphasis on implementation of fuels treatments in high risk areas.	Low potential for wildfire impacts to values at risk due to emphasis on implementation of fuels treatments in high risk areas.
Air Quality	NAAQS: Not Anticipated to exceed AQRV: Localized long term impacts expected	NAAQS: Not Anticipated to exceed AQRV: Localized long term impacts expected	NAAQS: Not Anticipated to exceed AQRV: Localized long term impacts expected	NAAQS: Not Anticipated to exceed AQRV: Localized long term impacts expected	NAAQS: Not Anticipated to exceed AQRV: Localized long term impacts expected
Visual Resources	Percentage of VRI Class managed as corresponding VRM Class: VRI I/VRM I: 100 percent VRI II/VRM II: 44 percent VRI III/VRM III: 74 percent VRI IV/VRM IV: 19 percent	Percentage of VRI Class managed as corresponding VRM Class: VRI I/VRM I: 98 percent VRI II/VRM II: 51 percent VRI III/VRM III: 71 percent VRI IV/VRM IV: 19 percent	Percentage of VRI Class managed as corresponding VRM Class: VRI I/VRM I: 100 percent VRI II/VRM II: 83 percent VRI III/VRM III: 67 percent VRI IV/VRM IV: 16 percent	Percentage of VRI Class managed as corresponding VRM Class: VRI I/VRM I: 100 percent VRI II/VRM II: 35 percent VRI III/VRM III: 85 percent VRI IV/VRM IV: 19 percent	Percentage of VRI Class managed as corresponding VRM Class: VRI I/VRM I: 100 percent VRI II/VRM II: 44 percent VRI III/VRM III: 74 percent VRI IV/VRM IV: 19 percent
Forestry	Annual Harvest Volume/Acres: 1.5 MMBF/ 430 acres	Annual Harvest Volume/Acres: 1.7 MMBF/ 500 acres	Annual Harvest Volume/Acres: 1.6 MMBF/ 460 acres	Annual Harvest Volume/Acres: 1.3 MMBF/ 430 acres	Annual Harvest Volume/Acres: 1.5 MMBF/ 430 acres

	Proposed Plan	Alternative A	Alternative B	Alternative C	Alternative D
Livestock Grazing	Available Acres: 783,160 acres Available AUMs: 106,168 An additional 9,635 AUMs available on pastures dominated by invasive annual grasses in specific areas	Available Acres: 783,160 acres Available AUMs: 106,168	Available Acres: 660,460 acres Available AUMs: 95,484	Available Acres: 783,160 acres Available AUMs: 106,168	Available Acres: 783,160 acres Available AUMs: 106,168
Recreation	SRMAs: 2 / 26,870 acres BCAs: 1/85,930 acres ERMAs: 1/23,820 acres Camping Closures: 15,080 acres (in ACEC)	SRMAs: 5 / 164,780 acres BCAs: N/A ERMAs: 2/618,380 acres Camping Closures: 70 acres	SRMAs: 2 / 43,680 acres BCAs: 1 / 123,430 acres ERMAs: N/A Camping Closures: 47,650 acres	SRMAs: 3 / 158,990 acres BCAs: N/A ERMAs: 1/36,820 acres Camping Closures: 140 acres	SRMAs: 2 / 26,870 acres BCAs: N/A ERMAs: 2/122,750 acres Camping Closures: 0 acres
Transportation and Travel Management	Closed to OHVs: 30,120 acres Open to OHVs: 2,940 acres Limited to Existing Routes: 750,100 acres	Closed to OHVs: 31,340 acres Open to OHVs: 2,410 acres Limited to Existing Routes: 749,410 acres	Closed to OHVs: 43,190 acres Open to OHVs: 2,310 acres Limited to Designated Routes: 737,660 acres	Closed to OHVs: 29,930 acres Open to OHVs: 2,940 acres Limited to Existing Routes: 750,290 acres	Closed to OHVs: 30,120 acres Open to OHVs: 2,940 acres Limited to Existing Routes: 750,100 acres
Land Tenure:	Available for Disposal: 2,820 acres Available for Land Tenure Adj.: 75,330 acres	Available for Disposal: 5,710 acres Available for Land Tenure Adj.: 10 acres	Available for Disposal: 530 acres Available for Land Tenure Adj.: 32,020 acres	Available for Disposal: 9,690 acres Available for Land Tenure Adj.: 101,280 acres	Available for Disposal: 2,820 acres Available for Land Tenure Adj.: 75,330 acres
Lands and Realty	Exclusion: 23,270 acres Avoidance: 623,460 acres	Exclusion: 40,430 acres Avoidance: 609,120 acres	Exclusion: 309,150 acres Avoidance: 366,480 acres	Exclusion: 23,270 acres Avoidance: 614,160 acres	Exclusion: 23,270 acres Avoidance: 623,460 acres
Wind Development	Exclusion: 297,050 acres Avoidance: 352,720 acres	Exclusion: 40,430 acres Avoidance: 609,120 acres	Exclusion: 467,040 acres Avoidance: 209,910 acres	Exclusion: 151,120 acres Avoidance: 485,940 acres	Exclusion: 297,050 acres Avoidance: 352,720 acres
Solar Development	Exclusion: 180,280 acres Avoidance: 469,500 acres	Exclusion: 40,430 acres Avoidance: 609,120 acres	Exclusion: 467,040 acres Avoidance: 209,910 acres	Exclusion: 49,220 acres Avoidance: 561,390 acres	Exclusion: 180,280 acres Avoidance: 469,500 acres
Leasable Minerals	Up to 22 wells drilled on BLM Administered Lands Closed: 23,270 acres NSO: 133,490 acres CSU/TLS: 525,530 acres	No wells drilled on BLM Administered Lands Closed: 23,380 acres NSO/NSSO: 105,100 acres CSU/TLS: 558,190 acres	Up to 4 wells drilled on BLM Administered Lands Closed: 112,350 acres NSO: 375,520 acres CSU/TLS: 233,600 acres	Up to 22 wells drilled on BLM Administered Lands Closed: 23,270 acres NSO: 80,370 acres CSU/TLS: 563,620 acres	Up to 22 wells drilled on BLM Administered Lands Closed: 23,270 acres NSO: 118,280 acres CSU/TLS: 538,770 acres
Locatable Minerals	0 acres recommended for withdrawal	21,370 acres recommended for withdrawal	290,860 acres recommended for withdrawal	0 acres recommended for withdrawal	0 acres recommended for withdrawal
Salable Minerals	48,100 acres closed	45,050 acres closed	465,460 acres closed	36,650 acres closed	48,090 acres closed

	Proposed Plan	Alternative A	Alternative B	Alternative C	Alternative D
Hazardous Materials and Public Safety	All lands in the PA would be available to discharge firearms	All lands in the PA would be available to discharge firearms	49,170 acres closed to discharging firearms	All lands in the PA would be available to discharge firearms	All lands in the PA would be available to discharge firearms
Special Designations	Total acres: 110,820	Total acres: 87,680	Total acres: 191,730	Total acres: 76,630	Total acres: 95,740
Wilderness Study Areas	23,270 acres	23,270 acres	23,270 acres	23,270 acres	23,270 acres
Wild and Scenic Rivers	6 segments; 91 miles (eligible)	2 segments; 27 miles (eligible)	6 segments; 91 miles (eligible)	6 segments; 91 miles (eligible)	6 segments; 91 miles (eligible)
Oregon National Historic Trail Corridor	Protective Zone: 24,910 acres	Managed under NHPA and as SRMA: 18,760 acres	Protective Zone: 47,850 acres	Protective Zone: 12,730 acres	Protective Zone: 24,910 acres
Lands with Wilderness Character	None	None	7,940 acres	None	None
ACECs	3 ACECs; 60,550 acres	10 ACECs; 64,190 acres	17 ACECs; 111,550 acres	2 ACECs; 39,680 acres	2 ACECs; 45,470 acres
Socioeconomics	Forecasted Employment: 718 annual jobs 2,960 short-term jobs	Forecasted Employment: 497 annual jobs 2,960 short-term jobs	Forecasted Employment: 511 annual jobs 2,960 short-term jobs	Forecasted Employment: 718 annual jobs 2,960 short-term jobs	Forecasted Employment: 718 annual jobs 2,960 short-term jobs

Chapter 3 - Affected Environment

The affected environment describes the existing conditions for Bureau of Land Management (BLM) resources, uses, special designations, other management areas, and the socioeconomic environment within the Four Rivers Planning Area (PA), as well as the biotic (living) and abiotic (non-living) components that may be affected by the alternatives described in Chapter 2 (Proposed Plan in this Final RMP/Final EIS and Alternatives A, B, C, and D described in the Draft RMP/Draft EIS). The affected environment serves as the baseline for analysis and comparison of each alternative's impact, described in Chapter 4, Environmental Consequences. In many instances, information from the Analysis of the Management Situation (AMS; BLM 2008b) is incorporated by reference and is not repeated here. The AMS is available at http://go.usa.gov/xnsn6.

3.1 Tribal Interests

The PA is the homeland of three culturally and linguistically related Tribes, the Shoshone, Bannock, and Northern Paiute. The PA also covers the southern extent of Nez Perce traditional lands. In the latter half of the 19th century, reservations were established at Fort Hall, near Blackfoot in eastern Idaho, and Duck Valley on the Nevada/Idaho border west of the Bruneau River. The Tribes residing on these Reservations today actively practice their culture and retain treaty rights and aboriginal rights and interests in the PA. The Four Rivers PA is filled with ceremonial, hunting, gathering, teaching, and historical sites, as well as resource-gathering areas for food, medicinal plants, and craft materials used in daily life. Appendix A contains a more detailed description of current and historic uses of the PA and an overview of the ongoing consultation efforts associated with this RMP revision.

3.2 Cultural Resources

There are roughly 700 known cultural sites on public lands in the PA, representing prehistoric and historic sites and traditional cultural properties. Some sites have various components that span a multitude of eras. The area includes segments of the Oregon National Historic Trail, Kelton and Basye historic freight roads, and two segments of Goodale's Cutoff, which are proposed for National Historic Trail candidacy. A number of sites could potentially be listed under the NRHP. A large percentage of the PA has not had a Class III cultural resource inventory. A high probability exists that many additional historic and prehistoric cultural sites are present. Additional information on the historic and prehistoric resources within the PA are found in pages 165-166 of the AMS (BLM 2008b).

3.3 Paleontological Resources

There are 130 known vertebrate fossil localities in the PA. The Snake River Plain, a Quaternary feature, consists of lava flows and fossiliferous lake and river deposits. Two hundred species of vertebrate fossils are known from the Quaternary in Idaho. The most common are mammoths, horses, camels, bison, mountain sheep, ground sloths, rodents, rabbits, birds, snakes, lizards, and fish. Mollusk fossils are also common in some areas (Winterfeld and Rapp 2009). Additional information on the paleontological resources of the PA are found in pages 173-174 of the AMS (BLM 2008b).

3.4 Vegetation Resources

The PA has been grouped into several broad vegetation communities to describe conditions and analyze impacts.

Evergreen Forest

The PA contains 50,830 acres of evergreen forest lands dominated by Douglas-fir (*Pseudotsuga menziesii*), with some ponderosa pine (*Pinus ponderosa*), lodgepole pine (*Pinus contorta*), subalpine fir (*Abies lasiocarpa*), grand fir (*Abies grandis*), Engelmann spruce (*Picea engelmannii*) and other

species, located primarily in small, scattered pockets in the northern and central portions of the PA (Map 3-1).

Aspen and Mountain Shrub

Interspersed with and surrounding the forest, deciduous woodlands are dominated by aspen (*Populus tremuloides*), mountain shrublands (mainly snowbrush (*Ceanothus velutinus*), and mountain mahogany (*Cercocarpus ledifolius*), together totaling 47,153 acres. The most contiguous stands are found in the relatively higher elevations of public lands in the Bennett Mountain area.

Shrub-Steppe and Perennial Grass

The PA supports 573,114 acres of shrub-steppe vegetation, which varies widely in species composition and dominance at various elevations in the PA. The major shrub species in these communities are big sagebrush (*Artemisia tridentata*), low sagebrush (*Artemisia arbuscula*), grey and green rabbitbrush (*Chrysothamnus viscidiflorus* and *Ericameria nauseosa*), and bitterbrush (*Purshia tridentata*). Several perennial bunchgrasses co-dominate sagebrush-steppe communities. The main native species are bluebunch wheatgrass (*Pseudoroegneria spicata*), Sandberg bluegrass (*Poa secunda*), bottlebrush squirreltail (*Elymus elymoides*), Thurber's needlegrass (*Achnatherum thurberianum*), Idaho fescue (*Festuca idahoensis*), bulbous oniongrass (*Melica bulbosa*), basin wildrye (*Leymus cinereus*), mountain brome (*Bromus marginatus*), and the major non-native seeded species are crested wheatgrass (*Agropyron cristatum*), Russian wildrye (*Psathyrostachys juncea*), and bulbous bluegrass (*Poa bulbosa*, which can be annual, biennial, or short-lived perennial, and is no longer intentionally seeded). Forbs are the most diverse group of vascular plants in shrub-steppe communities. Some common genera are biscuitroot, hawksbeard, onion, balsamroot, and phlox. Perennial grasslands are areas dominated by perennial grasses (described above) and marked by an absence or scarcity of shrubs.

Exotic Annual Grasslands

Exotic annual grasslands (162,748 acres) were once mainly dominated by low-elevation shrub-steppe communities and are now dominated by non-native annual species. Exotic annual grasses, such as cheatgrass *(Bromus tectorum)*, medusahead wildrye (*Taeniatherum caput-medusae*), and Japanese brome (*Bromus japonicas*), commonly occur in the PA where the ground has been disturbed. West Africa grass (*Ventenata dubia*) and jointed goatgrass (*Aegilops cylindrica*) are emerging invasive annual grass species in the PA. Infestations are present at varying elevations and vegetative communities. Annual forbs, including bur buttercup (*Ceratocephala testiculata*) and various mustard species, are present in large, disturbed patches, particularly adjacent to the Morley Nelson Snake River Birds of Prey National Conservation Area (NCA).

The Semi-desert Annual Grassland Division, which includes cheatgrass, medusahead wildrye, and exotic annual forbs, comprises approximately 20 percent of the PA (see Map 3-1, for distribution of annual grasslands/exotic annuals). These species, particularly cheatgrass, are common invaders of burned and disturbed areas (Pellant 1996). Widespread exotic annual grasses throughout the lower elevations have decreased plant diversity and increased fire risk.

Riparian and Wetland

Riparian and wetland areas are often typified by vegetation that are more water dependent than upland species. Riparian areas are located along the margins of lotic (flowing) and lentic (standing) water features. Deciduous shrubs and woodlands associated with riparian areas in the PA are comprised of willows, cottonwoods, and riparian shrub communities with a diverse understory of forbs and grasses, while the emergent wetland type has sedges, rushes, and mesic grasses.

Noxious Weeds and Invasive Plants

Weed management follows Idaho's state model described in Idaho's Strategic Plan for Managing Noxious Weeds (2005). PA distributions are defined as extensive, scattered throughout, or limited. A detailed description of the existing noxious and invasive species identified in the PA can be found in pages 61-69 of the AMS (BLM 2008b) and the Boise District Noxious Weed and Invasive Plant Management EA (BLM 2018b).

Counties within the PA are aggressively pursuing noxious weed and invasive plant control across all land ownerships. The Four Rivers Field Office (FRFO) cooperates and coordinates with federal, state, county, and private landowners through Cooperative Weed Management Areas (CWMAs). The CWMAs involve formal groups of interested and concerned parties that combine their expertise, energy, and resources to deal with common weed problems within specific management areas. Participants include county weed departments, USFS, Idaho Department of Lands, Idaho State Department of Agriculture, Idaho Department of Fish and Game (IDFG), Soil Conservation Districts, State highway departments, BLM, Idaho Power Company, and private landowners.

Invasive plants not currently identified in the PA can be introduced at any time. Not all newly introduced species become problematic. There are many invasive plant species of concern that are very limited in extent or currently not yet known to occur but are documented on adjacent lands or states and potentially threaten the FRFO. This list of species frequently changes as new species are constantly identified as posing a threat to public lands.

3.5 Special Status Species

3.5.1 Special Status Animals

The PA provides habitat for 61 special status animal species (SSA) that are known or have the potential to occur in the PA. These are represented by a variety of mammals (22), birds (26), reptiles and amphibians (7), fish (3), and invertebrates (3) (BLM 2016b). Thirty-two of these species are also considered Species of Greatest Conservation Need in Idaho (IDFG 2017). While the most current list of Special Status Species is used for this document, future changes, both additions and deletions, would be incorporated through plan maintenance and modification of management strategies as appropriate.

Northern Idaho Ground Squirrel

Northern Idaho ground squirrels are only known to occur in the PA in Adams and Valley counties. Their limited distribution includes meadows of grasses and forbs in higher elevation sagebrush and open ponderosa pine habitats. Most occupied sites have a mixture of shallow, rocky soils and deeper, well-drained soils to accommodate nest burrows. Seeds of forbs like lupines and plants of the sunflower family are important diet components (USFWS 2003a).

Snake River Physa

In 1995, the USFWS reported the range of the Snake River physa snail (*Physa natricina*) to be from Grandview, Idaho to the Hagerman Reach of the Snake River (USFWS 1995). More recent investigations have shown this species to occur outside of this historic range to as far downstream as Ontario, Oregon, with another population known to occur downstream of Minidoka Dam (USFWS 2012). A portion of the range of the Snake River physa occurs within the southwest and southeast portion of the PA. The Snake River Aquatic Species Recovery Plan provides guidance for the Snake River physa and four other aquatic snail species (USFWS 1995). A recovery area was designated for this snail that extends from near C.J. Strike Reservoir east to American Falls Dam, outside of the PA.

Table 3.1 - Bull trout Critical Habitat on BLM-managed Lands in the PA

Stream Name	HUC-8 (Watershed 4th Level)	Stream Miles
Dog Creek	Boise River	0.1
South Fork Boise River	Boise River	0.4
Middle Fork Payette River	Payette River	0.2
Indian Creek	Snake River	1.0
Snake River	Snake River	12.6
Wildhorse River	Snake River	2.0
Total Miles		**16.3**

Bull Trout

Bull trout are currently managed under the 1996 Bull Trout Conservation Plan for the State of Idaho. In October 2010, USFWS updated the designation of bull trout critical habitat (USFWS 2010a). Overall, there are 2,400 river miles of critical habitat for bull trout within the PA (Map 3-2 (USFWS 2010b)).

Type 2 SSAs

Currently, 57 BLM Type 2 SSAs have suitable habitat and/or a probability of occurring within the PA. Type 2 SSAs are designated as sensitive by the BLM State Director. More information on Type 2 SSAs can be found in Appendix K - Special Status Wildlife. All BLM sensitive species are considered under their associated habitat or vegetative community.

Since previous planning efforts, the number of BLM SSA designations have increased statewide. Many birds and mammals are experiencing regional declines in population numbers and distribution linked to increased fragmentation and loss of habitat (IDFG 2005a). A more detailed description of SSAs and habitat threats can be found in pages 112-129 of the AMS (BLM 2008b).

To facilitate the discussion of alternative impact analysis, all Type 2 SSAs were placed into one of five plant communities developed for the PA as described in section 3.4, Vegetation Resources. In addition to the five habitats described in section 3.4, a section addressing canyons, cliffs, and rock habitat is included in the evaluation of wildlife, as these areas provide specific and unique values that various species require as part of their life history. The plant community to which a species is assigned typically includes breeding habitat, or habitats used most frequently in Idaho, described as follows.

Evergreen Forest

Forest features such as snags, down logs that provide habitat structure (coarse woody debris), and large-diameter trees are important habitat characteristics for some wildlife such as cavity-nesting birds, small mammals/forest carnivores, and bats. Forage and cover found on the forested acres of the PA also provide important wildlife habitat for SSAs or their prey. Based on BLM monitoring and IFWIS (2017) data, the following SSAs have the potential to occur within the forested habitats of the PA: flammulated owl, northern goshawk, and various bat species. The majority of the SSAs associated with the evergreen forest plant community have been recorded on USFS lands.

Aspen and Mountain Shrub

This habitat provides important winter range and calving/fawning habitat for elk and deer. Along with riparian areas, this plant community provides the majority of nesting substrate for birds and the greatest diversity of forage and cover for a variety of wildlife species. Some SSAs that are closely associated with this plant community include long-eared owls, migratory birds, and Brewer's sparrow.

Shrub-Steppe and Perennial Grassland

Based on BLM monitoring and IFWIS (2017) data, some of the BLM Type 2 SSAs identified as being in the shrub-steppe plant community include: Greater Sage-Grouse and Columbian sharp-tailed

grouse; Brewer's sparrow, sagebrush sparrow, grasshopper sparrow, and Cassin's finch; loggerhead shrike; sage thrasher; Western small-footed myotis; and pygmy rabbit.

Perennial grasslands provide cover and a diversity of forage for wildlife. Some wildlife species prefer perennial and/or native annual grasslands where the shrub canopy is sparse, patchy, or missing. Based on BLM monitoring and IFWIS (2017) data, the following SSAs are frequently found in the grasslands of the PA: burrowing owl, Southern Idaho ground squirrel, and Paiute ground squirrel.

Long-billed curlews can be found throughout the semi-desert grassland and shrub communities of the PA, but use the grassland habitat for nesting. The State of Idaho has assigned long-billed curlews a ranking of S2B, imperiled due to restricted breeding habitat and declining numbers. The Long-billed Curlew Habitat ACEC was created to provide protection for curlew nesting and breeding habitat.

Burrowing owls are also a BLM SSA associated with perennial grasslands in the PA. Like the long-billed curlew, they prefer open habitats and nest in burrows dug mainly by badgers. Burrowing owls have declined over much of North America, but appear to be stable or increasing in the PA. These owls are frequently observed in the SE portion of the PA, but can be found in other areas of the PA.

Riparian and Wetland

Although riparian habitat makes up only 38,000 acres of the PA, many wildlife species use these areas for some part of their life history requirements. Based on BLM monitoring and IFWIS (2017) data, most SSAs use riparian habitats at some time of the year. The majority of the BLM sensitive reptiles, amphibians, invertebrates, and fish are also dependent on riparian areas. Featured riparian habitat SSAs in the PA include: bald eagle, willow flycatcher, and yellow warbler.

Canyon/Cliff/Rock

Canyon/Cliff/Rock habitat is based more on wildlife habitat needs for specific geologic features such as canyon walls adjacent to large drainages, rocky cliffs, steep rocky slopes, small rock outcrops, and caves during some part of their life history than on a specific plant community, although there are some unique vegetation communities associated with this habitat. Canyon/Cliff/Rock provides habitat features such as nesting sites for raptors, roosting areas for bats, refugia for reptiles, and often security due to inaccessibility to humans and predators. Based on BLM monitoring and IFWIS (2017) data, the following BLM SSAs are among the most commonly found within the Canyon/Cliff/Rock community in the PA: Great Basin black-collared lizard, golden eagle, and rock wren.

3.5.2 Special Status Plants

In conjunction with the Idaho Natural Heritage Program (INHP), FRFO conducts special status plant species (SSP) monitoring each year for priority species. Following BLM and INHP protocol, populations are inventoried and monitored for abundance (numbers), viability, and quality of habitat. Trend monitoring, while primarily targeting rangeland vegetative communities, may be extrapolated to include condition of nearby SSP habitat. The condition of habitat can also influence whether or not BLM land is meeting certain standards for rangeland health (BLM 1997a). As part of grazing permit renewal efforts, FRFO attempts to survey up to 5,000 acres of SSP habitat each year.

Currently, 27 SSPs are known to occur on public land; several other sensitive plants occur within the PA on non-public land. The greatest number of these sensitive species are located in Valley County and have the potential to occur on public land (reported in Appendix E). Global, State, and Idaho Native Plant Society (INPS) rankings are included, as few of these species occur on public land to date; therefore, they have not been given BLM status designations.

Slickspot Peppergrass

Slickspot peppergrass (*Lepidium papilliferum*, or LEPA) is listed as a Threatened species under the

ESA (September 2016) and is a BLM Type 1 SSP (BLM 2014). Slickspot peppergrass is endemic to the Snake River Plain and is located in the southern portion of the PA. Habitat for this species is presented in four categories: proposed critical habitat, occupied slickspot peppergrass habitat, slickspot peppergrass habitat (LEPA habitat), and potential slickspot peppergrass habitat. Slickspot peppergrass is managed under the 2014 Conservation Agreement between the BLM and USFWS (2014) (Appendix E).

Within the PA, there are 10 slickspot peppergrass management areas (33,522 acres). Slickspot peppergrass management areas are management units that contain multiple element occurrences (EOs) in a particular geographic area with similar land management issues or administrative boundaries and were defined as part of the 2003 and updated 2006 Candidate Conservation Agreements (CCA) (State of Idaho et al. 2003; State of Idaho et al. 2006). In addition, conservation measures were identified and have been included in many of the current guidance documents, including the 2014 Conservation Agreement (BLM and USFWS 2014), as updated, amended, or reauthorized.

Packard's milkvetch

Packard's milkvetch (*Astragalus cusickii* var. *packardiae*), was listed as a candidate species under the ESA in 2010 by the USFWS (USFWS 2010d) but was removed from candidate status in 2014 (USFWS 2014b). Packard's milkvetch is a BLM Type 2 SSP (BLM 2014). This plant is a narrow endemic plant located in northeastern Payette County. Its entire known range is approximately 10 square miles. The light-colored, sparsely vegetated sedimentary outcrops to which this species is restricted are found scattered throughout the landscape, but are limited in extent. The 2013 Candidate Conservation Agreement between BLM and USFWS (BLM and USFWS 2013) includes a description of threats and conservation efforts. Vegetation within the range of Packard's milkvetch has historically been sagebrush steppe habitat; however, due to habitat impacts from wildfire, livestock use, and invasive plants, much of its range has been converted to annual grasslands dominated by cheatgrass and medusahead wildrye.

Other Special Status Plants

Currently, there are 13 designated locations for SSP management including eight ACECs and five RNAs, (See Section 3.19 for additional discussion on ACECs).

Table 3.2 - Special Status Plants — Special Management Areas, Focus Species, and Condition

SMA	Focus Species	Condition
Boise Front ACEC	Aase's onion, Mulford's milkvetch	Upland areas are vegetated with Wyoming big sagebrush and bitterbrush shrub overstories with understories of bluebunch wheatgrass. Wildland fire has reduced cover of shrubs in many areas. Forbs and native bunchgrasses are abundant, though interspaces are dominated by cheatgrass, medusahead wildrye, and cereal rye. Rush skeletonweed is found throughout.
Buckwheat Flats RNA	Silverskin lichen, Tolmie's onion	Upland areas vegetated with sagebrush, antelope bitterbrush, bluebunch wheatgrass, and Idaho fescue. The riparian area is reported to be in good condition.
Cartwright Canyon ACEC	Aase's onion	Perennial bunchgrass species dominate this ACEC. Some areas appear to have burned in the past. Such areas contain fewer shrubs and more cheatgrass. Numerous forbs are also present with a few ponderosa pine trees.
Goodrich Creek RNA	Desert Parsley, Calcareous buckwheat	An area of mixed bunch grassland buckwheat and desert parsley in good condition. Good riparian zone along Goodrich Creek.
Hulls Gulch ACEC	Aase's onion	The predominant plant community is Wyoming big sagebrush. Forbs and native bunchgrasses are abundant, though interspaces are

SMA	Focus Species	Condition
		dominated by cheatgrass, medusahead wildrye, and cereal rye. Rush skeletonweed is found throughout.
King Hill Creek ACEC	Mourning milkvetch	The plant community is composed of various species of willow, rose, sedges, clematis, cottonwood, alder, and syringa. The lower end to the creek is being stabilized by beaver ponds.
Lost Basin Grassland RNA	Tolmie's onion (and intact bluebunch wheatgrass community)	The ridge top maintains a healthy, intact perennial bunchgrass community. Steep slopes to the south, north, and east appear undisturbed. Slopes are rocky, steep, and sparsely vegetated; slopes occasionally support patches of desirable native bunchgrasses and forbs, sparse ponderosa pines, and native shrubs.
Rebecca Sandhill RNA	Aase's onion, Mulford's milkvetch	Mixed native bunchgrasses occur on north slopes and ridge tops. Needle-and-thread grass occurs in sandy areas on south slopes. The area burned in 1992, and burned areas re-vegetated with non-native annual grasses.
Sand-capped Knob ACEC	Aase's onion	This area was last visited in 2011. Native plant communities are intact; however, rush skeletonweed is common. Aase's onion populations are stable and in good condition.
Sand Hollow ACEC	Aase's onion	The east side of the ACEC is remote and steep, making it difficult to access. Steeper slopes in the eastern half have sagebrush, antelope bitterbrush, and native bunchgrasses. Idaho fescue is found on some north-facing slopes in the northeastern corner.
Summer Creek RNA	Cusick's camas, Snake River milkvetch	Weeds are found on the southern slopes of Little Sheep Peak, but not in great numbers. A good mix of bunchgrasses and forbs are found at all elevations.
Willow Creek ACEC	Aase's onion	Shrub cover is low, with some patches of shrubs intact along ridges and steep draws. Sagebrush, cheatgrass, and medusahead wildrye predominate in the plant community. North slopes in the far northeastern corner have fewer weedy, annual species and more bunchgrasses, with interspaces filled with mosses and lichens.
Woods Gulch ACEC	Aase's onion	The overall trend for *Allium aaseae* at EOs 35, 52, and 53 is static; however, overall vegetation condition is degraded with increased annual plants and invasive weeds contributing to the general degraded habitat status. There is approximately 25 percent cover of cryptogamic soil species downslope and south of the population in EO 52.

3.6 Fish and Wildlife

BLM plays an integral role in managing aquatic habitat by maintaining and improving riparian and upland habitat quality. The majority (80 percent) of BLM streams in the PA are properly functioning (see Aquatic Resources, section 3.7 for description of proper functioning condition (PFC)), while the remaining streams are primarily functional-at risk with a static trend. The BLM documented whether salmonid species were present in monitored streams. In streams where salmonids were present, the majority were in PFC (67 percent) or functional-at risk (FAR) with a static trend (33 percent).

Over 350 wildlife species occupy diverse habitats in the PA ranging from low-elevation grasslands to mid-elevation mixed conifer forests. Wildlife are classified by the IDFG into several broad categories including big game, upland game birds, migratory game birds, furbearing animals, protected non-game, and unprotected wildlife. IDFG sets hunting and trapping seasons, issues tags and licenses to hunt, establishes methods of harvest, and develops population management and harvest objectives for game animals. The IDFG has primary responsibility for managing game and nongame wildlife populations in Idaho, while BLM is responsible for managing wildlife habitat on public lands. Winter range makes up the majority of big game habitat managed by the BLM and is critical to the survival of many game species (Map 3-3). Habitat associated with winter range on public lands is affected by roads and trails, availability of forage and thermal cover, and fragmentation

by landscape features such as agriculture, fences, roads, infrastructure and urban development. A description of the wildlife species and current trends in the PA is found on pages 77-86 of the AMS (BLM 2008b).

Big Game

Secretarial Order 3362 provides direction to "…enhance and improve the quality of big game winter range and migration corridor habitat on Federal lands under the management jurisdiction of this Department in a way that recognizes state authority to conserve and management big game species and respects property rights".

Migratory Birds

In the PA, declines in mature forests have reduced nesting sites and foraging areas for the northern goshawk, Vaux's swift, white-headed woodpecker, flammulated owl, and olive-sided flycatcher. Declines in sagebrush-obligate species such as Brewer's and sage sparrows can be attributed to changes in shrubland structure, abundance, and distribution (ICBEMP 1997).

3.7 Aquatic Resources

Currently, BLM uses Proper Functioning Condition (PFC) assessments and Multiple Indicator Monitoring (MIM) protocols to assess and monitor streams, springs, and wetlands. Table 3.3 summarizes the findings of PFC assessments on 431 stream-miles of perennial and intermittent flow regime streams across the PA. Seventy-nine percent were rated in PFC, 21 percent were rated FAR, and less than 1 percent were rated as nonfunctional (NF).

Table 3.3 - Stream PFC Ratings in the PA

PFC Rating	Stream Miles	Percent of Total
PFC	339	79
FAR	90	21
NF	2	<1
Total	**431**	**100**

Springs and Wetlands

Springs and associated wetlands were assessed for functioning condition following BLM protocol for lentic systems (e. g., springs, natural ponds, wetlands; TR-1737-16 1999). Table 3.4 summarizes the finding of PFC assessments on 177 acres of wetlands and springs across the PA. Forty-three percent of spring and wetland acres were rated in PFC, 54 percent were rated FAR, and 2 percent were rated NF.

Table 3.4 - Spring and Wetland PFC Ratings in the PA

PFC Rating	Number of Springs	Wetland Acres	Percent by acres
PFC	69	77	43
FAR	65	96	54
NF	11	4	2
Total	**145**	**177**	**100**

The IDEQ establishes water quality standards for Idaho, which provide a foundation to protect, maintain, or improve water resources. IDEQ has responsibility for protecting water quality within Idaho and enforcing specific water quality standards for each beneficial use. Wherever attainable, cold water aquatic life and primary and secondary contact recreation are the designated beneficial uses for perennial streams that are to be protected (Idaho Administrative Procedures Act (IDAPA) 58.01.02.100 and 58.01.02.100.02).

Although 183 miles of listed water quality impaired streams are identified on BLM lands (IDEQ 2014a), 115 miles (63 percent) of these streams have strongly intermittent or seasonal stream flows

and were not rated for proper functioning condition by BLM.

3.8 Wild Horses

Two wild horse herd areas (HAs) are present in the PA: West Crane Creek HA and Four Mile HA (Map 3-4). The Four Mile Herd Management Area (HMA) comprises 18,000 acres of the 25,800-acre Four Mile HA. The West Crane Creek HA currently supports no wild horses. They were removed in the late 1980s.

In the late 1980s, approximately 7,000 acres of the southwestern portion of the Four Mile HA were fenced off from the rest of the HA, along Four Mile Road, for fire rehabilitation. This fence was not removed when the rehabilitation was completed, and those acres are not within the HMA. The HMA encompasses approximately 15,995 acres of public land, 925 acres of state land, and 1,114 acres of private land, for a total of 18,034 acres. Although there is one east-west fence (three miles) dividing the HA into two pastures, all gates inside the perimeter fence are left open when domestic livestock are not present to maintain the wild horses' free-roaming characteristics.

The Four Mile HMA is managed in accordance with the 1993 Four Mile Wild Horse Herd Management Plan (HMP; BLM 1993). The Big Willow Allotment Environmental Assessment (EA #ID-010-00125), completed in 2001, established an Appropriate Management Level (AML) of 60 horses for the Four Mile HMA, with a population range of 37 to 60 horses. The 1993 HMP and 2001 decision identified a four-year gather schedule based on the assumption of a 20 percent population increase annually.

Numerous water sources exist in the HMA. The north pasture includes four reservoirs, one spring, and five troughs, while the southern pasture has four reservoirs. These water sources have provided adequate water for the wild horse herd over the past several years; it has not been necessary to haul water into the HMA.

The HMA is popular for big game and upland game bird hunting, equestrians, hiking, and camping. In addition, the area is popular for OHV use. Because the HMA is considered big game winter range, domestic livestock are not present during the winter, thus reducing competition for available forage.

The population of the HMA was last counted in February 2018; at that time, 120 adults and eight foals were observed. After accounting for animals that were likely to have been present, but not seen, during the survey, the estimated number of animals was 127 adults and nine foals (USGS, preliminary unpublished analysis). Annual counts of this herd indicate that it has averaged about 23 percent annual population growth.

3.9 Wildfire Ecology and Fuels Management

Between 2009 and 2014, 355 human- and lightning-caused wildfires (only includes fires over 10 acres) were documented in the PA, burning 125,591 acres (Table 3.5 and Map 3-5). The majority of fires in the PA were caused by humans, though fires started by lightning burned more acres.

Wildfire engines, dozers, water tenders, and aviation assets provide primary fire protection on the Boise District. While these resources are housed in or near the PA, the equipment/personnel are not always available for the PA due to high seasonal demand in other areas of the District.

The objectives of fuels management are to reduce risks to human communities and improve land health, while maintaining resource values. Fuels treatment projects often include restoration objectives for forestry, range, wildlife, and weed eradication.

Table 3.5 - Wildfire History in the Four Rivers Planning Area (2009-2014)

Year	Number of Fires	Acres Impacted by Human-Caused	Acres Impacted by Lightning-Caused Fires	Total Acres
2009	41	918	821	1,739
2010	54	4,786	6,648	11,434
2011	73	2,203	42,649	44,853
2012	78	5,512	10,230	15,742
2013	75	1,717	49,481	51,198
2014	44	611	14	625
Total	**355**	**15,748**	**109,844**	**125,591**

Urban, suburban, and vacation developments have increased in the PA, creating a corresponding increase in the Wildland-Urban Interface (WUI) areas and increased congestion on major access roads and highways leading to those sites. The WUI areas generally surround the undeveloped lands associated with communities at risk. In Idaho, any community with an official post office was included on the communities at risk list, including communities associated with historic settlements. Within the PA, 64 communities at risk exist, as published in 66 FR 751 (2001) (Map 3-6). The presence of communities at risk or WUI areas generally indicates intensive management for wildfire suppression, hazardous fuels treatments, and community assistance. The Boise District has numerous wildfire suppression agreements with State and local cooperators pertaining to fire management.

Post-fire rehabilitation is generally undertaken to reduce public health and safety hazards, protect community infrastructure, and protect and sustain ecosystem structure and function (Map 3-7); typical projects include soil stabilization, noxious weed and flood control, and rehabilitation of vegetation.

3.10 Air Quality

Air quality indicators include air pollutant concentrations and air quality related values (AQRV) such as visibility and atmospheric deposition.

Airsheds and Smoke Management

Class I airsheds, as depicted in Figure 6 of Appendix P, lie entirely or partially within the Area of Concern (AOC) or are considered to be in the vicinity of the AOC. All other areas within the PA and AOC are Class II airsheds.

Table 3.6 - Standard Visual Range (Visibility) from Nearby and Regional Class I Airsheds 2001-2011

Station	Average Visibility	Worst 20% Visibility	Best 20% Visibility
Hells Canyon, OR/ID	105	45	165
Sawtooth, ID	130	70	170
Craters of the Moon, ID	115	65	150
Selway Bitterroot,	135	70	195
Jarbidge, NV	130	75	180
Source: IMPROVE 2014b, USFS 2014			

Air Quality Related Values (AQRV)

The visibility at the five Class I airsheds that surround the PA are identified in Table 3.6. These Class I airsheds could be degraded by an increase in local $PM_{2.5}$ emissions and/or local or regional NO_x emissions. Also, visibility could be improved by implementation of measures required by the Idaho State Implementation Plan (SIP).

The trend for each of the five sites over the past 11 years is showing an improvement in visibility. Overall, the average visibility is fairly close for all sites, with the Selway-Bitterroot Wilderness having the farthest visibility at 135 miles, followed by the Sawtooth NRA and Jarbidge Wilderness at 130 miles.

3.11 Visual Resources

Of the ten counties that comprise the PA, Ada and Canyon counties are the most developed. While the majority of the PA is open, past and current developments have transformed parts of the viewshed from open space with expansive views to a somewhat developed suburban landscape in the southern portion of the PA. Agricultural fields are a common feature within the region, resulting in a change in the color and texture of the landscape while retaining the expansive quality.

While the PA's scenic quality has remained relatively constant, visual sensitivity has increased, partially as a result of the public's growing awareness of how management actions affect visual resources, but also from population growth. Areas that may have once been rarely visited or observed may now be seen more frequently. This phenomenon affects areas beyond just local municipalities and jurisdictions as residents seek outdoor recreational opportunities.

As part of the planning process, a Visual Resource Inventory was conducted throughout the PA. The VRI was conducted to determine the visual (scenic) values within the PA at a specific point in time. The three primary components to a visual resource inventory include scenic quality evaluation, sensitivity level analysis, and distances zones. Table 3.7 and Map 3-8 identifies the results of the VRI for the PA.

Table 3.7 - Visual Resource Inventory Results

VRI Class	Acres
VRI I	23,271
VRI II	137,265
VRI III	322,568
VRI IV	300,051
Total	**783,160**

3.12 Forestry and Woodland Management

Forest and woodland products include resources that are harvested or gathered with social and economic value. The products harvested from within the PA primarily include saw-timber for building materials (commercial timber), biomass (timber cut and chipped for fuel), firewood, and, to a lesser extent, posts, poles, and Christmas trees. Forest vegetation is discussed in more detail in section 3.4, Vegetation.

3.13 Livestock Grazing Management

Livestock grazing is managed through a permitting process that authorizes grazing in specific areas known as allotments that may be divided into pastures for more efficient livestock management. The allotments in the PA cover over 1.1 million acres, of which approximately 738,000 acres are public land (Map 3-9 and Appendix R). FRFO administers 262 grazing permits. Currently, all lands in the PA are available for livestock grazing, although 36,830 acres are either vacant (not currently permitted) or unassigned. Total permitted use in the PA is 106,430 Animal Unit Months (AUMs) of which 4,836 AUMs are suspended (not available for active use). Actual forage production fluctuates from year to year based on several factors, including precipitation, pests, and disturbance. Actual use by livestock operators may also fluctuate due to the above factors and operator preference.

Since 2007, rangeland health assessments have been completed on 34 of the PA's 326 grazing allotments. Of the 34 allotments, 14 were meeting all applicable Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management. The remaining 20 allotments were not meeting one or more standards. Livestock management has been identified as a significant factor in 15 of the 21 allotments not meeting standards.

Within the PA, 14 allotments permitted for domestic sheep overlap bighorn sheep habitat. There are 9 allotments in the PA allocated for domestic horse grazing.

3.14 Recreation

In 2017, Idaho was rated as one of the fastest-growing states in the nation, with the Boise metro area as one of the most desirable locations to move in the West due to the relatively affordable housing market, low unemployment, and access to outdoor recreation. Recreational demand for and use of the PA's public land has grown at a similarly dramatic rate for the areas in close proximity to the Boise urban area, primarily for the Boise Front Special Recreation Management Area (SRMA) and Payette River SRMA. Conversely, over the past 20 years, visitation to some sites and SRMAs in the PA has decreased in use, such as Steck Park Campground (site in Oxbow/Brownlee SRMA), Bennett Hills Winter Recreation SRMA, and Oregon National Historic Trail SRMA, as preferences and demand for particular recreation activities continue to change.

Average annual recreational use in the PA for 2015-2017 was 288,002 visits (86,755 visitor days) (Table 3.8 and Table 3.9). The BLM has traditionally managed recreation to provide a dispersed experience on its vast, open landscapes; there are relatively few developed recreational sites. The Field Office provides this traditional experience in certain places; however, much of the PA is located on smaller, scattered parcels of public land in proximity to or intermingled with growing communities. More information regarding each of the SRMAs and ERMAs in addition to special recreation permits is described in Appendix S – Recreation.

Table 3.8 -Three-Year Average Recreational Use, 2015-2017

Activity Group	Average Number of Participants Per Year	Average Number of Visitor Days[a] Per Year
Boating/Motorized	1,870	618
Boating/Nonmotorized	25,140	8,985
Camping and Picnicking	20,655	8,159
Driving for Pleasure	19,647	8,160
Fishing	9,133	3,723
Hunting	18,559	7,229
Interpretation, Education, and Nature Study	43,111	8,359
Nonmotorized Travel	75,841	21,131
Off-Highway Vehicle Travel	51,980	15,882
Snowmobile & Other Motorized Travel	711	300
Specialized Motor Sports, Events, and Activities	15	3
Specialized Non-Motor Sports, Events, and Activities	15,274	2,973
Swimming and Other Water Based Activities	4,494	680
Winter/Nonmotorized Activities	1,572	552
Three-Year Average Recreational Use	**288,002**	**86,755**

[a] Visitor Day = 12 hours of activity

Table 3.9 - 2017 Estimated Site-Specific Recreation Visits and Visitor Days

Area	Visits	Visitor Days
Bennett Hills Winter Recreation Area SRMA	3,000	3,060
Boise Front SRMA	87,570	35,450
Oregon National Historic Trail SRMA	7,200	21,050
Oxbow/Brownlee SRMA	7,250	6,090
Payette River Corridor SRMA	42,700	16,640
Cascade ERMA	27,200	21,050
Treasure Valley ERMA	29,590	6,560

3.15 Transportation and Travel Management

Current trends in OHV ownership suggest a continuing demand for recreational access and use of public land. The need for adequate transportation routes is anticipated to increase, as demand outstrips the available supply of existing routes. For example, from 2012 to 2016, registrations for OHVs increased 5 percent, yet the number of trail miles open to motorized use on federal lands decreased by 11 percent in Idaho. There are currently no completed travel management plans in the PA. The development of a Travel Management Plan to designate a road, primitive road, and trail network will be deferred until after the RMP is completed. More information regarding travel management planning is included in Appendix H- Travel and Transportation Management.

Along the Boise Front, recreational, non-motorized trail use (hiking, biking, and mountain biking) predominates; however, there are more than 200 miles of both motorized and non-motorized trails in the area. In other parts of the PA, motorized users have access to an extensive network of user-built trails. Informal, trail-based OHV use predominates in the Big Willow Creek, Snake River Breaks, and Bennett Mountain areas.

The Ridge to Rivers system of BLM-designated trails is shown on the Ridge to Rivers Map (http://ridgetorivers.cityofboise.org/Trails), which is updated annually. With land acquisitions and exchanges, new trails on public lands are often added; the BLM proposes to create several new connecting trails, in conjunction with the other Ridge to Rivers partners, in the future.

3.16 Lands and Realty

Land Tenure

BLM-administered lands are retained in federal ownership, as mandated by the FLPMA, except for lands identified in a land use plan that meet disposal criteria listed in section 203 of FLPMA, such as being isolated or difficult to manage, or that have the potential to support community expansion, economic development, or other public purposes. Withdrawn BLM-administered lands remain under title with the BLM; however, they are managed by another federal entity and are not available for sale or exchange. Within the PA since 2000, BLM has acquired over 6,900 acres of private land from willing sellers and has transferred over 12,500 acres into private ownership through sales and exchanges. Access easements were acquired across approximately 14 acres of private land, and 634 acres of conservation easement were purchased or donated to preclude or restrict incompatible development and use.

Land Use Authorizations

Most land use authorization applications in the PA are filed in support of residential, commercial, and industrial developments occurring on adjacent or nearby private land. As such, the number of applications filed tends to fluctuate with the economy, since most applications are related to the need for access and infrastructure ROWs to support private developments in adjacent or nearby population centers. In addition, ROW grants have been issued for a variety of public-safety related developments (e.g., communication towers, wildfire lookouts).

Renewable Energy - Wind Energy

A large portion of the PA is estimated to have Class 3 and above winds, suitable for utility-scale projects. However, the scattered land base, slopes and other obstructions, military and Federal Aviation Administration airspace restrictions, access to existing transmission lines, and other concerns make much of the area unsuitable for commercial development. The Field Office has received three ROW applications for wind testing, all of which were subsequently withdrawn. A commercial wind farm was constructed on private land southeast of Mountain Home. Otherwise, there has been some testing and interest on other private lands, but no construction. Interest has been

expressed in some of the PA's limited Class 6 areas along ridge tops, but very few of these areas exist. Although technology continues to improve, and interest in small projects may return when capital is available, wind projects are not anticipated to occur on public land in the PA in the foreseeable future.

Withdrawals

A number of withdrawals, primarily along river corridors, have segregated (set aside) a substantial amount of public land for projects such as electric transmission, irrigation, and hydroelectric impoundments. Most withdrawals in the PA were initiated decades ago and withdrew the affected land from entry, application, and disposal under various public land and mineral laws (Map 3-10). There are no stock driveway withdrawals in the PA. On January 13, 2011, the BLM announced in the Federal Register that all stock driveway withdrawals in the Cascade RMP had expired and the affected lands were open to the operation of the public land laws.

3.17 Minerals

The BLM administers the federal mineral estate on behalf of the Secretary of the Interior, regardless of surface ownership, including lands that are private surface (split estate) and federal lands managed by a different surface management agency. Decisions in this planning document apply to 1,173,160 acres of federal mineral estate under BLM management. This includes 780,710 acres of BLM-administered surface and 392,450 acres of non-federal surface with federal minerals (split estate). Map 3-11 displays the split-estate lands managed by the FRFO.

Leasable Minerals

Fluid Leasable Minerals: The existing management plans (1988 Cascade RMP, 1987 Jarbidge RMP and 1983 Kuna MFP) did not analyze for potential development of fluid leasable minerals. While surface occupancy restrictions were identified for specific resources throughout the planning area, all plans assumed low potential for fluid mineral leasing and development. In 1990, BLM issued supplemental program guidance for fluid minerals (H 1624-1) which identified three factors of analysis to be considered in making fluid minerals determinations in resource management plans or plan amendments: (1) the potential for fluid mineral occurrence and development; (2) the cumulative impacts of reasonably foreseeable development; and (3) the necessity for constraints (BLM 1990). Since the existing management plans did not analyze any of these factors, it was determined that fluid mineral leasing within the PA was not in conformance with existing policy; nearly all expressions of interest in the PA have been deferred or rejected. In 2015, BLM sold leases in an area with oil and gas development on private lands. These leases were protective leases issued with No Surface Occupancy and No Sub-surface Occupancy restrictions with the intent to amend these restrictions with stipulations developed and evaluated in this RMP revision. These restrictions did not allow for development of the federal minerals but did allow for compensation to the federal government associated with drainage of the federal minerals from private land development (BLM 2015f).

The Reasonably Foreseeable Development Scenario for Oil and Gas Development in the Four Rivers Field Office (RFDS) (BLM 2016a), accompanied by the Oil and Gas Potential of the Four Rivers Field Office (BLM 2009d) report prepared for the PA, describes the anticipated level of oil and gas exploration and development activity associated with oil and gas leasing (Map 3-12). Over the life of the plan, the RFDS estimates up to 130 oil and gas wells may be developed in the PA, primarily in the Payette region. Of those 130 oil and gas wells, it is estimated that up to 22 producing wells would be located on BLM lands. The RFDS for oil and gas development in the PA is found in Appendix T.

Solid Leasable Minerals: Solid leasable minerals consist of a single permit for hard rock mineral exploration on acquired USFS lands near Harris Creek Summit. There is currently no permitted production within the PA. Based on the limited development of known resources, leasing activity for

solid leasable minerals is expected to remain low to nonexistent. There are no known economic deposits of coal or phosphate-bearing rock in the PA.

Geothermal Resources: Information in the Reasonably Foreseeable Development Scenario (RFDS) for Geothermal Development in the Four Rivers Field Office, Idaho (BLM 2010c) was adapted from the Final Environmental Impact Statement (FEIS) for Geothermal Leasing in the Western United States (BLM 2008g), and applied to the local conditions and mineral potential of the PA. Based on the geothermal potential for the PA, it is reasonable to assume that a 50-MW plant might be developed in those areas determined to have high potential for indirect use. It is reasonable to assume that a 20-MW geothermal power plant might be developed anywhere along the northwest-trending fault zone, particularly on the southwest (valley) side of the fault zone, over the life of the plan. The RFDS for geothermal development in the PA is found in Appendix T.

Locatable Minerals

The location of mining claims on the federal mineral estate is governed by the General Mining Law of 1872. The surface management for locatable mineral development is under the authority of the surface management agency (i.e., USFS). The BLM is solely responsible for the administration and recordation of mining claims on all federal lands that are open to mineral entry. Mining activity is primarily focused on placer gold deposits in the Idaho Batholith. Other locatable minerals include zinc, manganese, iron, molybdenum, bismuth, monazite, diatomite, jasper, geodes, and lode deposits of gold, silver, lead, and copper. In general, mining activity fluctuates with the price of commodities. Smaller-sized mines (generally $\leq$ 5 acres) are actively producing gold, jasper, and geodes. Future demand for locatable minerals in the PA would likely increase as the domestic and global economies expand. Historic distribution of mining claims, mining districts, and activity in the PA is shown in Map 3-13.

Salable Minerals (Mineral Materials)

Salable minerals within the PA include sand, gravel, cinders, surface rocks, and quarry rock (generally basalt and rhyolite). Generally, these materials are widespread and of low unit value. Their value depends largely on market factors, material quality, and transportation availability and costs. Overall, demand for salable mineral disposals in the PA is dependent upon the local economy and housing market. A total of 46 salable mineral sites are administered by BLM within the PA.

3.18 Abandoned Mines, Hazardous Materials, and Public Safety

Public education about the dangers associated with Abandoned Mine Land (AML) is important for the public's health and safety. Sites discovered are closed or remediated based on the risk to public safety. FRFO has remediated three abandoned mine sites and has an inventory of twelve features to date. These AML features occur within the Adelman mine near Lucky Peak and within the Curlew Tunnel site in the Boise Foothills area. Due to impacts to potential bat habitat, cultural resources, and natural resource impacts during closure, BLM is required to inventory sites prior to remediation. The FRFO AML site inventory has no known sites directly affecting water quality in the PA. Other known hazardous waste sites (Central Cover Sanitary Landfill, Pickles Butte Airstrip, Dry lakes Airstrip, and the Gem County Landfill) have been remediated.

3.19 Special Designations and Lands with Wilderness Characteristics

Specially designated lands occurring within the PA include Areas of Critical Environmental Concern (ACECs), Research Natural Areas (RNAs), National Historic Trails, Wild and Scenic Rivers (WSRs), and Wilderness Study Areas (WSAs) (Map 3-14).

Areas of Critical Environmental Concern and Research Natural Areas

ACECs contain regionally significant scenic, cultural, paleontological or geological values; SSPs

and/or SSAs; or valuable representations of ecological communities or wildlife habitats. RNAs were identified in the 1988 Cascade RMP in some areas containing SSPs. Currently, the PA contains 10 ACECs and five RNAs (Map 3-14 and Table 3.10), encompassing approximately 65,400 acres. Appendix U provides a detailed description of each existing and proposed ACEC in the PA including the relevant and important values.

National Trails and Byways

The Oregon Trail was designated as a National Historic Trail (NHT) in 1977. The Omnibus Public Land Management Act of 2009 (PL 111–11) established the North Side Alternate (NSA) and Goodale's Cutoff as study trails under the Oregon National Historic Trail, and the National Trails Act was amended accordingly. Kelton Road, a freight road established in 1864 and following much of the Oregon Trail, is eligible for listing on the NRHP. The trails are managed for both motorized and non-motorized use and accessed from various locations, including Bonneville Point, Boise, and Glenns Ferry. The Canyon Creek Stage Station and a network of signs provide interpretive information about the trail. As the administrator of all National Trails, the National Park Service will conduct the Feasibility Study for the NSA and Goodale's Cutoff and will make designation recommendations to Congress. Until Congress makes a designation decision, the BLM's role is to properly manage these two trails so as not to compromise potential future Congressional action to designate.

BLM also cooperatively manages isolated tracts of National Recreation Trails (Hulls Gulch Interpretive Trail and Weiser River Trail) and historic and scenic byways.

Table 3.10 - Areas of Critical Environmental Concern and Research Natural Areas

ACEC/RNA	Acres[a]	Resource Value(s)
Boise Front ACEC	11,3600	Watershed; wildlife; special status plants
Buckwheat Flats RNA	200	Special status plants
Cartwright Canyon ACEC	400	Special status plant
Hixon Columbian Sharp-tailed Grouse Habitat	4,170	Special status animal and plant
Goodrich Creek RNA	360	Special status animal and plant
Hulls Gulch ACEC	120	Special status plant
King Hill Creek ACEC	840	Special status animal and plant
Long-billed Curlew Habitat ACEC	45,020	Wildlife – BLM Idaho Sensitive Species
Lost Basin Grassland RNA	60	Special status plant
Rebecca Sandhill RNA	240	Special status plants
Sand-capped Knob ACEC	40	Special status plant
Sand Hollow ACEC	1,300	Special status plant
Summer Creek RNA	240	Special status plants
Willow Creek ACEC	1,010	Special status plant
Woods Gulch ACEC	40	Special status plant

[a]Acres were calculated using GIS coverage data and rounded.

Wild and Scenic Rivers

An 8-mile segment of the South Fork Payette River was determined eligible for inclusion in the 1988 Cascade RMP. A 19-mile segment of the Snake River was determined eligible for inclusion in the 2015 Jarbidge RMP (Map 3-14). For this RMP revision, Wild and Scenic River eligibility determinations and tentative classifications have been completed. Four sections of river were found eligible (Appendix V).

Wilderness Study Areas

There are two WSAs within the PA, King Hill Creek and Box Creek. Although neither WSA was recommended as suitable for Wilderness designation, they continue to be managed according to BLM Manual M-6330 to protect the wilderness values of naturalness, solitude, and primitive and

unconfined recreational opportunities until Congress acts on the recommendations. Only Congress can designate Wilderness or release WSAs from further review.

Lands with Wilderness Characteristics

BLM completed an initial wilderness inventory and identified WSAs at that time. The PA was evaluated for wilderness characteristics as part of the RMP revision, and one BLM roadless area of sufficient size with potentially qualifying characteristics (i.e., naturalness, outstanding opportunities for solitude or primitive and/or unconfined recreation) was identified. The Sheep Mountain area consists of approximately 8,000 acres of public land adjacent to the Snake River along Oxbow Reservoir. This area provides users with opportunities for solitude, primitive and/or unconfined recreation, and high levels of naturalness (Appendix W – Wilderness Characteristics Technical Report).

3.20 Social and Economic Conditions

While Boise has long been the region's largest community, rapid population and employment growth has occurred throughout the PA in recent decades. From 1970 to 2017, total population in the socioeconomic analysis area grew from 235,089 to 784,838 people, a 234 percent increase (Table 3.11).

The socioeconomic analysis area is composed of a rapidly urbanizing Treasure Valley (Ada and Canyon counties) and 8 more rural counties. Canyon and Ada counties grew the fastest, with Valley County and its resort communities not far behind. In contrast, Adams and Washington counties have experienced very little growth in recent years. In 2017, 87 percent of the population in the socioeconomic analysis area (673,548 people) resided in either Ada County or Canyon County (U.S. Department of Commerce 2018).

Table 3.11 - Population Change in the Socioeconomic Analysis Area

	1970 Census	1980 Census	1990 Census	2000 Census	2010 Census	2017 American Community Survey Estimate
Ada County	112,230	173,036	205,775	300,904	392,377	456,849
Adams County	2,877	3,347	3,254	3,476	3,978	4,147
Boise County	1,763	2,999	3,509	6,670	7,028	7,290
Canyon County	61,288	83,756	90,076	131,441	188,923	216,699
Elmore County	17,479	21,565	21,205	29,130	27,038	26,823
Gem County	9,387	11,972	11,844	15,181	16,719	17,379
Owyhee County	6,422	8,272	8,392	10,644	11,526	11,628
Payette County	12,401	15,722	16,434	20,578	22,622	23,215
Valley County	3,609	5,604	6,109	7,651	9,862	10,687
Washington County	7,633	8,803	8,550	9,977	10,198	10,121
Socioeconomic Analysis Area	235,089	335,076	375,148	535,652	690,271	784,838
State of Idaho	712,567	943,935	1,006,750	1,293,950	1,567,582	1,716,943

Source: (U.S. Census Bureau 2018a)

Employment

Job growth in the socioeconomic analysis area was higher than the national average from 1970 to 2016. Total employment in the analysis area grew from 110,531 jobs in 1970 to 443,267 jobs in 2016, an increase of 303 percent (U.S. Census Bureau 2018b). In comparison, total growth of jobs in the U.S. increased 112 percent (U.S. Census Bureau 2018b). The majority of job growth in the analysis area is concentrated in Ada and Canyon counties, which experienced 437 percent and 212 percent

increases in wage and salary jobs from 1970 to 2016, respectively (U.S. Census Bureau 2018b). The number of self-employed persons (proprietors) increased from 21,082 in 1970 to 106,214 in 2016, an increase of 404 percent (U.S. Census Bureau 2018b).

Table 3.12 - Industry Sector and Employment for the Socioeconomic Analysis Area in 2017

Industry Sector	Employment (Number of jobs)	Employment Rank
Health Care and Social Assistance	49,436	1
Retail Trade	45,211	2
State and Local Government	40,580	3
Accommodation and Food Services	30,328	4
Administrative and Waste Services	29,087	5
Manufacturing	28,970	6
Professional and Technical Services	28,846	7
Other Services Except Public Administration	27,677	8
Construction	27,386	9
Real Estate	21,079	10
Finance and Insurance	20,226	11
Wholesale Trade	14,873	12
Transportation and Warehousing	12,744	13
Farming	10,053	14
Arts, Entertainment, and Recreation	8,506	15
Information	6,810	16
Military	6,323	17
Federal Government	6,058	18
Educational Services	5,938	19
Management of Companies and Enterprises	4,268	20
Forestry, Fishing, and Agricultural Services	2,239	21
Utilities	1,594	22
Mining	1,059	23
TOTAL	**429,291**	**-**

Source: (IMPLAN Group 2016)
1. All totals were calculated using unrounded original numbers.
2. Employment includes full-and part-time jobs.

Total industry output was $62.2 billion in 2017 (in 2017 dollars). The industry sectors employed over 406,000 people, who collectively earned approximately $18.8 billion in the form of employee compensation and proprietor income (profit). Health care and social assistance ranked first in employment and labor earnings, and manufacturing ranked first in economic output.

Unemployment in 2017 was lower than unemployment levels in 1976; however, all counties in the socioeconomic analysis area underwent increases in unemployment around the year of 2010 due to an economic recession. Adams County has had the highest unemployment rate in the analysis area from 1976 to 2017 (U.S. Census Bureau 2018a). From 1976 to 2017, the annual unemployment rate ranged from 2.7 percent in 2017 (Ada County) to 18.5 percent in 2010 (Adams County) (U.S. Census Bureau 2018a).

Discussion of Impacts to Social and Economic Conditions from Land Management Actions

Vegetative Restoration, Fish and Wildlife, Water Quality, and Special Status Species Management Activities

Impacts to Market Goods and Services: In general, vegetation treatments require the expenditure of BLM funds. A portion of these funds are made locally for goods and services, generating positive,

one-time, direct economic impacts. If the treatments are successful, the environmental benefits that flow from the treatment will include some that can be monetized. One outcome might be increased forage production from seeding treatments or invasive species removal, which could improve grazing. Another might be improved riparian habitat and water quality that improve fishing and hunting experiences, and lead to increased recreational visitor-days.

A cost of these treatments is the temporary reduction in grazing that occurs during and immediately after vegetation and water quality treatments.

Protections for special status species would have an overall negative impact on market-based socioeconomic conditions in affected areas. Special status species protections are likely to require additional administrative compliance costs incurred as hours by landowners or their staffs, as well as materials and labor needed for installation of protection measures. Grazing practices may also have to be altered to avoid special status species habitat or populations, resulting in incidental decreases of AUMs.

Impacts to Non-market Ecosystem Goods and Services: Land treatments and restrictions for vegetation, water quality, forest management, rangeland communities, and ACECs would protect or enhance the ability of these areas to provide ecosystem services. Stream buffer exclusions for oil and gas exploration and occupancy would protect riparian and wetland areas from disturbance, thereby maintaining the ability of these areas to provide water filtration and other ecosystem services.

Wildfire Ecology and Fuels Management Activities

Impacts to Market Goods and Services: Between 2009 and 2014, the PA experienced a total of 355 documented wildland fire starts (greater than 10 acres) that burned a total of 125,591 total acres; (Map 3-5). These events generate a short-term stream of positive economic impacts in monies spent for firefighting and burned area restoration. The size of the positive impacts would likely be dwarfed by the negative impacts on users, such as permittees and recreationists. Wildfires can harm livestock, infrastructure, haystacks, vehicles and equipment, transmission lines, and other capital investments, in addition to the ecological damage that results from fire. Ranchers lose forage not only in the year of the fire, but for several years until restoration treatments are successful. Data are not available on the economic costs of wildfires at the PA level.

Fire suppression and restoration are expensive economic activities that would bring investment into a locality on a one-time basis. While fighting fires, BLM spends money locally for firefighter meals, amenities, occasional temporary lodging, miscellaneous equipment, and incidentals. BLM often hires locally for bulldozer and water truck drivers. In addition, firefighters may spend money in local communities during their time in the area. These direct impacts generate normal indirect and induced economic impacts; expenditures rise in proportion to the number and size of fires in a given season.

To the degree that treatments would reduce annual grass amounts and increase fuel break miles, they create positive economic impacts in the reduced probability of future fires through potential avoided suppression and landscape restoration costs. Investments in fire suppression equipment and Community Wildfire Protection Plans could similarly serve to lower future wildfire damages, suppression costs, and restoration expenses.

Fuels management activities would result in short-term detriments to economic activity through limitations to livestock grazing and other uses but would also result in short-term benefits from monies spent on firefighting and restoration activities.

Impacts to Non-market Ecosystem Goods and Services: Actions to prevent the spread of wildfires and treatments to restore burned areas would protect or attempt to restore ecosystems goods and

services of these areas, such as decomposition, water filtration, groundwater recharge, support of biodiversity, carbon sequestration, and erosion and flood control.

Livestock Grazing Management Activities[1]

Estimating the economic impact of livestock grazing on the socioeconomic analysis area using only AUMs costs may underestimate the actual importance of this resource. A previous study in Elko County, Nevada estimated that the value of one public land AUM at the ranch level is characterized by diminishing marginal productivity (Alevy et al. 2007). In some cases, the entire ranch operation may depend on some minimum level of federal AUM grazing permits being available. In this case, the value of these minimum levels of AUMs will be more than the average values given below. Conversely, because of diminishing returns, additional availability of AUM grazing may be considerably less than average when the availability of the grazing is already at higher levels.

Impacts to Market Goods and Services: The FRFO provides a total net permitted use (less suspended ones) of 103,740 cattle AUMs. The value of one AUM of livestock production in southwestern Idaho was estimated at $97.68 per AUM by the BLM in 2015 (number converted to 2017 dollars for consistency with this document) (BLM 2015d).

Table 3.13 - Employment, Labor Income, and Value of Output Impacts of 103,740 Cattle AUMs of Federal Grazing in the Socioeconomic Analysis Area for Alternatives A and C

Impact Type	Employment (Number of Jobs)	Labor Income	Output
Direct Effect	67	$1,718,753	$10,389,600
Indirect Effect	50	$1,988,199	$6,765,067
Induced Effect	24	$1,008,927	$3,101,408
TOTAL Effect	**140**	**$4,715,879**	**$20,256,076**

Source: IMPLAN Group 2016

Notes:

1. Analysis for cattle, sheep, and horses were analyzed.
2. Employment includes full- and part-time jobs.
3. Multipliers associated with IMPLAN Sector 11: Livestock ranching and farming, including feedlots and dual-purpose ranching and farming.

The proportion of indirect and induced effects reported for the ranching and farming industry in the socioeconomic analysis area (IMPLAN Group 2016) was used to calculate total economic effects of permitted livestock grazing based on BLM-calculated value of production per AUM for Alternatives A and C. The baseline economic impact of all 103,740 cattle AUMs currently estimated to be available in the socioeconomic analysis area using the estimate of $97.68 per cattle AUM is presented in Table 3.13. A total of 140 jobs, $4,715,879 in labor income, and $20,256,076 in total economic activity are impacted by the 103,740 Federal cattle grazing AUM's in the FRFO PA. While these numbers are very small relative to the total economy of the socioeconomic analysis area, grazing impacts are more important in some of the smaller rural economies where much of the economic activity from grazing occurs.

Impacts to Non-market Ecosystem Goods and Services: Livestock grazing can result in ecosystem impairments such as soil disturbance, crushing and destroying of plants, increased invasion of noxious weeds and other undesirable species, and soil compaction. Inversely, restrictions to timing and extents of livestock grazing can result in the cessation or reduction of grazing-related negative impacts to ecosystem goods and services. Under these alternatives (A & C), all of the existing grazing allotments would continue to be open to livestock grazing. This would result in continuation of current trends of

[1] Analysis of livestock grazing impacts on socioeconomics only analyzes cattle AUMs as they are the primary livestock kind in the PA.

livestock grazing-related impacts to ecosystem goods and services.

Table 3.14 - Total Economic Impact from Developing One Well

Impact Type	Employment (Number of Jobs)	Labor Income	Value Added	Output
Direct Effect	6	$317,606	$394,105	$769,947
Indirect Effect	2	$98,246	$148,664	$289,404
Induced Effect	3	$118,936	$204,252	$374,913
TOTAL Effect	11	$534,789	$747,021	$1,434,264
Source: IMPLAN Group 2016				

Table 3.15 - Economic Contribution associated with $1,000,000 of Oil and Gas Sales

Impact Type	Employment (Number of Jobs)	Labor Income	Value Added	Output
Direct Effect	7	$1,182,396	$806,670	$1,000,000
Indirect Effect	1	$52,684	$54,051	$97,645
Induced Effect	9	$348,059	$599,116	$1,100,036
TOTAL Effect	17	$1,583,139	$1,459,837	$2,197,681
Source: IMPLAN Group 2016				

Table 3.16 - Oil and Gas Production as a result of drainage of Federal Leases

		Sales Volume		Wellhead Price		Revenue	
Oil and Gas Extraction	**Units**	**FY16**	**FY17**	**FY16**	**FY17**	**FY16**	**FY17**
Natural Gas	M Cubic Feet	386,315	652,397	$0.96	$1.53	$371,432	$1,000,029
Crude Oil	Barrels	14,749	20,023	$23.41	$26.17	$345,321	$523,982
Natural Gas Liquids	Gallons	599,037	895,090	$0.17	$0.39	$101,910	$350,125
Total	-	-	-	-	-	**$818,663**	**$1,874,136**

Mineral Resources Management Activities

Impacts of Market Goods and Services: Drilling a single oil/gas well in the PA would produce approximately 11 jobs for each well with $534,789 in labor income. Estimates of the employment, labor income, and value of output impacts drilling a single natural gas well might bring to the area is presented in Table 3.14. On average, wells in the Payette area have produced gas valued at approximately $1,000,000 annually, which translates to approximately 17 jobs annually with $2,197,681 in labor income (Table 3.15)[2]. For purposes of the analysis, it is assumed that a single well would produce, on average, gas valued at $1,000,000 annually. In addition, natural gas production on public land in Idaho generates important fiscal impacts, as 50 percent of both land lease payments and gas severance taxes accrue to the State of Idaho. In 2017, payment for drainage of gas from federal leases as a result of wells on private leases produced $1,874,136 in revenue (Table 3.16).The inability to drill any wells within high and medium oil and gas potential increases the probability that directional drilling or continued drainage of federal minerals from non-federal wells would occur. Oil and gas development would not contribute any jobs to the local economy although BLM would continue to collect revenue associated with the drainage of federal minerals from private wells.

NSO restriction and closure areas (12 percent of high and moderate to high potential acres) increase the probability that directional drilling may be required for geothermal exploration and production. However, the area of geothermal potential would remain largely available for exploration and drilling. Seasonal restriction constraints could increase the construction costs of large geothermal plants by

[2] See Appendix X for additional description of assumptions in calculation of annual jobs pertaining to oil and gas exploration and production.

lengthening the total construction period beyond a single year.

Table 3.17 - Geothermal Power Plant Development Costs

Development Stage	Cost (2017 dollars per kW)	Capital Cost 20 MW Plant (2017 Dollars)	Capital Cost 50 MW Plant (2017 Dollars)
Exploration	$14	$273,000	$685,000
Permitting	$49	$978,000	$2,446,000
Steam Gathering	$244	$4,891,000	$12,229,000
Exploratory Drilling	$165	$3,307,000	$8,267,000
Production Drilling	$1,338	$26,746,000	$66,866,000
Plant and Construction	$1,663	$33,262,000	$83,096,000
Transmission	$98	$1,956,000	$4,891,000
TOTAL	$3,714	$74,270,000	$185,620,000

Source: (US DOE 2009)
Notes:
1. All totals were calculated using unrounded original numbers.
2. Costs indexed to 2017 dollars with the US Inflation Calculator (http://www.usinflationcalculator.com/).

Estimated construction costs of a 20-MW and a 50-MW geothermal power plant are shown in Table 3.17. The economic impacts of a 20-MW geothermal power plant and a 50-MW geothermal power plant are described below. The impacts of large investments are broken into two phases: short-term impacts caused by construction activities; and long-term economic impacts of operating the project. Commercial electricity production from geothermal water is a new and developing industry. As such, the economics of the industry are rapidly changing. The United States Department of Energy Office of Energy Efficiency and Renewable Energy (EERE) has developed a model called the Geothermal Electricity Technology Evaluation Model (GETEM [US DOE 2008]) that could estimate project costs, but it requires details of a project that are not available at this early planning stage. Instead, costs were estimated using data from the 2008 Geothermal Technologies Market Report (US DOE 2009), updated to 2017 dollars.

The costs of $74,270,000 and $185,620,000 (in 2017 dollars) can be considered conservative estimates, based on higher costs determined through preliminary use of the GETEM model (US DOE 2008). In particular, the costs of connecting the project to the transmission system could be higher based on the location within the PA and whether new transmission lines would need to be constructed.

Initial construction costs of a 20-MW plant would add $124,645,300 in output, $42,911,160 in labor income, and 846 jobs to the economy of the socioeconomic analysis area (Table 3.18). During plant operations, $4,706,130 in economic output, $1,035,560 in labor income, and 11 jobs would be created annually. A 50-MW plant would generate $311,521,600 in economic output, $107,246,350 in labor income, and 2,114 jobs during construction. Annual operations would add $8,412,720 in economic output, $1,851,170 in labor income, and 20 jobs annually.

There would potentially be moderate short-term negative social impacts if the plants were constructed in rural counties associated with the influx of workers and activity on issues such as traffic, housing, and community services during the construction period.

Table 3.18 - Total Economic Impacts of Geothermal Plants

	20 MW Plant (Estimated construction cost: $74.3 million)			50 MW Plant (Estimated construction cost: $185.6 million)		
	Employment (Number of Jobs)	Value of Output (2017 Dollars)	Labor Income (2017) Dollars)	Employment (Number of Jobs)	Value of Output (2017 Dollars)	Labor Income (2017 Dollars)
Short-Term Impacts of Construction	846	$124,645,300	$42,911,160	2,114	$311,521,600	$107,246,350
Long-Term Annual Impacts of Operation	11	$4,706,130	$1,035,560	20	$8,412,720	$1,851,170

Source: (IMPLAN Group 2016)
Notes:
1. Employment includes full and part-time jobs.
2. Multipliers for plant construction are for the industry *Construction of new power and communication structures* industry as reported in IMPLAN analysis. Multipliers for plant operation are for the industry *Electric power generation – Geothermal* as reported in IMPLAN analysis.
3. Costs indexed to 2017 dollars with the US Inflation Calculator (http://www.usinflationcalculator.com/).

In terms of locatable minerals, mines in the PA are currently producing gold, jasper, and geodes, with some exploration activity. Exploration of a copper and molybdenum ore body is being proposed in Boise County, but would not be on BLM land. Notices for mechanized exploration and plans for development of locatable minerals are handled on a case-by-case basis within existing activity constraints and would continue to be handled in this manner under all alternatives (Proposed Plan and Alternatives A, B, C, & D).

Table 3.19 - Annual Economic Impacts of Salable Mineral Production

	Employment (Number of Jobs)	Labor Income (2017 Dollars)	Output (2017 Dollars)
Direct Effects	10	$132,903	$2,060,292
Indirect Effects	5	$260,678	$809,515
Induced Effects	3	$113,501	$358,065
TOTAL Effects	**18**	**$507,083**	**$3,227,872**

Source: IMPLAN Group 2016
Notes:
1. All totals were calculated using unrounded original numbers.
2. Employment includes full and part-time jobs.
3. Multipliers for salable mineral production were derived from the industries *stone mining and quarrying*; *sand and gravel mining*; *other clay, ceramic, refractory minerals mining*; *other chemical and fertilizer mining*; and *other nonmetallic minerals mining* as reported by IMPLAN. Direct, indirect, and induced effects were calculated separately for these industries and summed to provide totals for all salable minerals in the socioeconomic analysis area.
4. Values indexed to 2017 dollars with the US Inflation Calculator (http://www.usinflationcalculator.com/).

Salable minerals are taken from lands via community pits, negotiated sales, and free use permits to State and local governments and the general public. Within the socioeconomic analysis area, total value of output of stone mining and quarrying in addition to sand and gravel mining on BLM lands was estimated at $3,227,872 annually (2017 dollars) (IMPLAN Group 2016). It is possible haul distances might be increased in some cases but increases in cost would be expected to be negligible to minor. The economic impacts of current levels of salable minerals production are shown in Table 3.19. Salable mineral production in the socioeconomic analysis area provides 18 full or part-time jobs.

Impacts to Non-market Ecosystem Goods and Services: The extraction of mineral resources can be highly disturbing to ecosystems and the ability of these areas to provide ecosystem services. Restrictions to protect special status species or other resources would protect some ecosystems goods and services from disturbance due to mineral resource exploration and extraction.

The alternatives would have minor restrictions for mineral resources extraction and therefore impacts to non-market ecosystem goods and services from mineral resources extraction would be high under the alternatives.

Recreation Management, Transportation, and Travel Management Activities

Recreation and travel management activities are combined for purposes of this analysis because the consequences of travel restrictions are normally experienced as changes in the number, location, or type of visitor-days use. Changes in visitor days result in changes to economic output, number of jobs, and employment revenue associated with many industry sectors that support recreation.

Table 3.20 - Four Rivers Field Office Recreation Values

Visitor Use Activity Groupings	2015-2017 Average Visits in the PA	Recreation Spending Per Visitor Day (2017 Dollars)	Total Recreation Spending (2017 Dollars)	Estimated 2045 Visitor Days	Total Recreation Spending (2017 Dollars)
Motorized Boating	1,870	$38.63	$72,238	59,113	$2,282,800
Non-motorized Boating	25,140	$22.89	$575,455	39,598	$906,880
Camping & Picnicking	20,655	$49.21	$1,016,433	109,760	$5,401,760
Driving for Pleasure	19,647	$20.07	$394,315	120,162	$2,411,760
Fishing	9,133	$26.38	$240,929	109,716	$2,895,360
Hunting	18,559	$57.66	$1,070,112	107,449	$6,195,280
Interpretation Education, & Nature Study Totals	43,111	$18.81	$810,918	69,903	$1,315,600
Non-motorized Travel	75,841	$18.81	$1,426,569	58,772	$1,105,520
Off-Highway Vehicle Travel	51,980	$30.99	$1,610,860	130,825	$4,054,960
Snowmobile & Other Motorized Travel	711	$39.58	$28,141	1,914	$75,920
Motor Sports, Events & Activities	15	$56.38	$846	55	$3,120
Non-Motor Sports, Events & Activities	15,274	$19.69	$300,745	17,382	$342,160
Swimming & Water Based Activities	4,494	$19.69	$88,487	3,966	$78,000
Non-motorized Winter Activities	1,572	$19.69	$30,953	3,397	$66,560
Total Four Rivers Field Office	**288,002**	**-**	**$7,667,000**	**832,012**	**$27,135,680**

Source: (BLM 2007; Stynes and White 2005)
Notes:

Visitor Use Activity Groupings	2015-2017 Average Visits in the PA	Recreation Spending Per Visitor Day (2017 Dollars)	Total Recreation Spending (2017 Dollars)	Estimated 2045 Visitor Days	Total Recreation Spending (2017 Dollars)
1. Projections for 2045 assume all recreation use will grow in proportion to population growth from 2008-2045 (97.5 percent). 2. Visitor-day values updated to 2017 dollars by the US Inflation Calculator (http://www.usinflationcalculator.com/).					

Impacts to Market Goods and Services: Economic activity associated with recreational activities is an important and growing component of the socioeconomic conditions in the socioeconomic analysis area. Recreation management decisions have the potential to impact economic conditions in the socioeconomic analysis area mainly through income and employment effects in economies that serve recreationists.

The best source of recreational activity data comes from BLM Recreation Information Management System (RMIS). Recreation visitor-day use by activity and location is summarized in Section 3.14, Recreation. Based on RMIS visitor use data, there has been an average of 0.53 visitor-use days per acre of SRMAs or ERMAs within the PA in recent years (BLM 2018c). Under Alternative A, existing recreation use of the area would be expected to continue at a rate that parallels average yearly population growth in the socioeconomic analysis area for the period of time between 1970 and 2017.

RMIS data and National Forest recreation expenditures generated nationwide were used to estimate the value of recreation activity on BLM land for the average visitor days from 2015 to 2017 in the PA (Table 3.20). Expenditures per visitor day ranged from $18.81 to $57.66 depending on type of activity. These values were used to forecast recreation spending per visitor day in 2045. These values are very conservative, and represent cash expenditures while on a trip, but do not include the cost of purchasing and maintaining equipment, such as OHVs, boats, and gear for hunting, fishing, and camping.

Over the long term, recreational activity is assumed to grow in proportion to Idaho population growth from 2008 to 2045 by 97.5 percent (2.6 percent per year for 37 years). This increase in activity is a function of demand and would likely occur regardless of BLM management decisions.

The values of $7,667,000 (2017) and $27,135,680 (2045) are the basis for estimating direct impacts of recreation activities on the socioeconomic conditions of the PA in the short and long term. The majority of expenditures for both day and overnight trips for either local or non-local recreationists is estimated to be on lodging, restaurants, groceries, and gas (Stynes and White 2005). Costs of other forms of transportation, entry fees, entertainment, sporting goods, and souvenirs compose the remainder of expenditures (Stynes and White 2005).

Expenditure categories were estimated using national average expenditure profiles (Stynes and White 2005). More than three quarters of the spending is estimated to be on lodging, restaurants, groceries, and gas. Table 3.21 presents detail on the estimated expenditure pattern for recreationists. Weighted averages in this table were calculated by determining proportion of spending (based on national averages) for each spending category based on total per visitor spending of $26.62 (total recreation spending in the PA divided by total number of 2015 to 2017 average visitor days).

Table 3.21 - Estimated Visitor Expenditures per Day by Category

	Per Visitor Day	FRFO Per Visitor Day		
Spending Category	National Average (%)	Lowest Estimate (2017 Dollars)	Highest Estimate (2017 Dollars)	Weighted Average (2017 Dollars)
Lodging	18.7	$3.52	$10.78	$6.09
Restaurants	21.1	$3.97	$12.17	$6.88

	Per Visitor Day	FRFO Per Visitor Day		
Spending Category	**National Average (%)**	**Lowest Estimate (2017 Dollars)**	**Highest Estimate (2017 Dollars)**	**Weighted Average (2017 Dollars)**
Groceries	16.3	$3.07	$9.40	$5.31
Gas and Oil	20.4	$3.84	$11.76	$6.66
Other Transportation	2.1	$0.40	$1.21	$0.69
Activities	5.7	$1.07	$3.29	$1.86
Admissions/fees	5.8	$1.09	$3.35	$1.89
Souvenirs/other	9.9	$1.86	$5.71	$3.22
TOTAL	100	$18.81	$57.66	$32.61

Source: (Stynes and White 2005)
Values indexed to 2017 dollars with the US Inflation Calculator (http://www.usinflationcalculator.com/).

Total economic output, employment, and labor income in the socioeconomic analysis area due to recreation is presented in Table 3.21. Given rising population in the region, economic impacts of recreation are projected to increase over the next decade. Table 3.22 gives the economic output of PA recreation spending for 2045 for an estimated 832,012 visits. A total of $27,227,870 in PA recreation visitor spending is associated with $49,525,630 in economic output, about 602 jobs, and over $18,546,000 in labor income for the region in 2045.

Impacts to Non-market Ecosystem Goods and Services: Recreation and transportation/travel impacts to ecosystem services can be highly variable. Improper visitor behavior such as littering or vandalism can be detrimental to ecosystems and may eventually result in an impairment of ecosystem services. High demand for recreation with inadequate regulation or opportunities may also increase degradation of ecosystem goods and services. However, access to nature and outdoor education is important for healthy brain development in children (Wells 2000) and may lead to an appreciation for nature and development of an outdoor ethic in humans of all ages. Therefore, well-managed recreation can be an overall benefit to recreationists, which in turn could benefit ecosystems goods and services through increased funding leading to better facilities and more responsible visitation.

Table 3.22 - Total Employment, Labor Income, and Value of Output Impacts for Recreation Activities in the Socioeconomic Analysis Area under Alternative A

Impact Type	Employment (Number of Jobs)	Output (2017 Dollars)	Labor Income (2017 Dollars)
Direct Effect	217	$13,739,440	$5,785,520
Indirect Effect	37	$5,182,320	$1,572,480
Induced Effect	50	$6,068,400	$2,000,960
Total Effect	**304**	**$24,990,160**	**$9,358,960**

Source: (IMPLAN Group 2016)
Notes:
1. All totals were calculated using unrounded original numbers.
2. Employment includes full and part-time jobs.
3. The employment multipliers used in these categories are weighted averages for the four largest spending categories. These are 1) lodging (IMPLAN industry category: *Hotels and motels, including casino hotels*), 2) restaurants (IMPLAN industry category: *Full-service restaurants*), 3) groceries (IMPLAN industry category: *Retail - Food and beverage stores*), and 4) gas and oil (IMPLAN industry category: *Retail - Gasoline stores*).
4. Costs indexed to 2017 dollars with the US Inflation Calculator (http://www.usinflationcalculator.com/).

Table 3.23 - Projected 2045 Output Employment, Labor Income Impacts of FRFO Recreation Spending in the Ten County Area

Impact Type	Employment (Number of Jobs)	Output (2017 Dollars)	Labor Income (2017 Dollars)
Direct Effect	429	$27,227,870	$11,464,640
Indirect Effect	74	$10,270,880	$3,115,330

Impact Type	Employment (Number of Jobs)	Output (2017 Dollars)	Labor Income (2017 Dollars)
Induced Effect	99	$12,026,880	$3,966,040
Total Effect	**602**	**$49,525,630**	**$18,546,010**

Source: (IMPLAN Group 2016)
Notes:
1. All totals were calculated using unrounded original numbers.
2. Employment includes full and part-time jobs.
3. The employment multipliers used in these categories are weighted averages for the four largest spending categories. These are 1) lodging (IMPLAN industry category: *Hotels and motels, including casino hotels*), 2) restaurants (IMPLAN industry category: *Full-service restaurants*), 3) groceries (IMPLAN industry category: *Retail - Food and beverage stores*), and 4) gas and oil (IMPLAN industry category: *Retail - Gasoline stores*).

Lands and Realty

Impacts to Market Goods and Services: Lands and Realty actions have the potential to greatly impact the economic conditions of the PA. Approvals of ROWs are required for transmission lines, wind and solar projects, and other energy projects that cross BLM managed land. ROW approvals are crucial components of large private investments on public lands. Disposals of land parcels in WUI areas could prompt community development projects. Land exchanges could lower BLM and/or State administrative costs by consolidating holdings, and could play a role in allowing planned communities and other developments to move forward.

Lands and Realty actions occur on a case-by-case basis. The actions would be constrained more by administrative capacity to effect transactions than by the amount of land available for disposal. The locations are not predictable, except that there have been an increasing number of ROW applications near urban growth boundaries, which are associated with commercial and residential land developments close to BLM managed land. The economic impact is unpredictable and no variation could be presumed between alternatives, despite variations in the amounts available for disposal.

The 5,720 acres identified in the Cascade RMP as "available" would be considered for disposal under Alternative A, but no data exists to allow change predictions in land use and locations of future transactions or the subsequent economic values. Site-specific analysis would be completed for land exchanges to ensure that lands proposed to be acquired are equal to or greater in value than BLM lands proposed to be relinquished and to determine resource impacts.

Impacts to Non-market Ecosystem Goods and Services: Any actions that impact land use have the potential to impact ecosystem goods and services. No data exist to predict the locations or impacts of land tenure adjustments under any of the alternatives on ecosystems at this time.

Renewable Energy Activities

Impacts to Market Goods and Services: Investment behavior in the alternative energy market is difficult to predict. While development potential can be assessed in rough terms, there are many variables in the complex process of making large financial investments. ROW restrictions would minimally constrain wind energy development through 38,350 acres of exclusion and 489,200 acres of avoidance areas for special status species, ACECs, VRM, and recreational developments, in Alternative A. While one commercial wind farm exists near BLM land in the Bennett Road area, commercial potential within the PA is believed to be limited by the small size of ridge tops with Class 6 wind, fragmented ownership, limited access to transmission lines, and the presence of numerous geographic and legal obstructions (e.g., flight zones). For these reasons, no commercial wind projects are projected for construction in the PA in the foreseeable future. Levels of solar radiation received in the PA are mostly below the average yearly level (6.5 KwH/m^2/day) that the National Renewable Energy Lab uses to screen out commercially viable sites. As such, there has been no expressed interest

in commercial solar energy projects in the PA. However, with technological advances, interest in commercial solar energy applications could occur in the future.

Impacts to Non-market Ecosystem Goods and Services: No impacts to ecosystem goods and services due to renewable energy activities are anticipated at this time as no development is currently planned under any alternative. If development occurs, ecosystem goods and services such as erosion control and biodiversity support might be expected to be impacted by these activities.

Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, directs all federal agencies to identify and address any disproportionately high and adverse human health or environmental effects of federal programs, policies, and activities on minority and low-income populations. As the analysis actions in this RMP would affect all populations equally, there would be no disproportionate effect on minority or low-income populations, and environmental justice analysis is not warranted for this RMP.

Chapter 4 - Environmental Consequences

Impact Analysis Descriptors

This chapter describes the direction, extent, and duration of identified impacts or effects. The terms 'impacts' and 'effects' are used synonymously.

- **Adverse or Beneficial Impacts.** When applicable, this chapter differentiates beneficial and adverse impacts for key planning issues to help the BLM decision maker and readers understand the multiple-use tradeoffs associated with each alternative.
- **Cumulative Impacts.** The Cumulative Impacts section describes anticipated incremental impacts of the Proposed Plan in relation to past, present, and reasonably foreseeable actions.

Impact Considerations

RMPs represent a large volume of data, therefore, it is necessary to summarize results, to the extent appropriate, for each resource. The descriptions of potential impacts focus on those resources that could be substantially affected or were identified by the public or agencies as issues. Potential impacts on those resources not substantially affected or identified as major issues are presented in a general summary. For comparison and analysis purposes only, acreage figures and other measurements used and referred to are approximate. The BLM only has decision authority on BLM-administered public lands, not on private or state lands, or on lands managed by other federal agencies. The impact assessment recognizes laws, regulations, policies, guidelines, and best management practices (BMPs) or techniques that would generally apply to all future actions. Additionally, no ground-disturbing activities would directly result from approval of the RMP. Such future activities would require site or project-specific environmental evaluations prior to their final approval (BLM Manual H-1601-1) (BLM 2005a).

Chapter Organization

This chapter presents the analysis of effects from the Proposed Plan as described in Chapter 2. The analyses for Alternatives A, B, C, and D are presented in the Draft RMP and Draft EIS (USDOI BLM, 2019) and are incorporated by reference. Since the analyses are broad in nature and not all factors that influence how impacts may affect a resource are known, assumptions are made for analytical purposes and provide for comparison between alternatives. The discussion of impacts works in conjunction with management actions and does not repeat them.

4.1 Assumptions for Analysis

A set of assumptions has been developed to assess impacts to resources and resource uses, including assumptions common to all alternatives and resources and those that are specific to individual resources. These assumptions are located in Appendix X.

For purposes of analysis, estimates of reasonably foreseeable actions were developed to describe the level and kind of expected activities in the PA over the life of the RMP based on existing activities, trends, and the alternatives (A, B, C, and D in the FRFO Draft RMP/Draft EIS). Unless specifically identified, the analysis area for all resource analyses is all BLM-administered lands within the planning area. The reasonably foreseeable actions used in the analysis of the Proposed Plan are found in Appendix Y (Tables Y-10 through Y-17). These values and acreages do not set minimum or maximum treatments or impact acreages, but instead reflect an estimate of potential activities and impacts (acres or miles) based on the management actions described in the Proposed Plan and the alternatives presented in the Draft RMP/Draft EIS. These numbers are for analysis purposes only and are displayed in the relevant and appropriate resource or resource use sections that follow.

The estimates of surface disturbance based upon allocations described in Chapter 2 (Appendix Y,

Tables Y-1 through Y-9) and reasonably foreseeable actions are tools used to compare the impacts of land use allocations in the Proposed Plan and the alternatives presented in the Draft RMP/Draft EIS. Therefore, the estimated total number of individual activities and associated surface disturbance may be exceeded so long as the additional activities or location of the development would not change the land use allocations determined through the Record of Decision (ROD). The actions presented in Appendix Y are subject to subsequent permitting and environmental analysis.

4.2 Tribal Interests and Cultural Resource Management

BLM would continue to recognize American Indian treaty rights, Tribal interests, and aboriginal rights. The BLM has not identified any impacts to Tribal treaty rights such as access to Tribal hunting, fishing, or resource collection areas from proposed management actions. Impacts to Tribal interests would continue to be analyzed on a project-specific basis in consultation with the appropriate Tribes. Any activity that would impact wildlife, fish, or native plant communities in the PA would have the potential to impact Tribal interests. Sites of Tribal interest would be identified through consultation with Tribes at both the planning and project-specific levels. Protection measures such as appropriate avoidances or other mitigation measures would be developed and implemented in consultation with the affected Tribes. The location and nature of these types of resources are generally held in strict confidence at the request of the affected Tribe(s). No adverse effects are anticipated to sites of Tribal interest.

Only a small portion of the lands administered by the BLM have been surveyed for cultural and historic resources, but potential for these resources exists throughout the PA. The number and significance of these cultural resources cannot be estimated; therefore, impacts resulting from proposed management actions could not be quantified.

The types and potential for impacts that could result from management direction are similar but vary by the acreage affected by actions that could impact cultural resources. Affected acreage does not indicate that an impact would necessarily occur but does indicate the relative potential for impacts to occur.

Discussion of Impacts

BLM management of cultural resources is guided by laws, Executive Orders, regulations, and policies. The National Historic Preservation Act (NHPA) of 1966, as amended, directs federal agencies to provide leadership in the protection and preservation of prehistoric and historic cultural properties that have been determined eligible for listing or are listed in the National Register of Historic Places (NRHP). Section 106 of the NHPA directs federal agencies to take into account the effects of their undertakings on historic properties and consult with American Indian Tribes, the State Historic Preservation Office, the Advisory Council on Historic Preservation, and interested members of the public. Section 110 of the NHPA directs agencies to establish programs to inventory, evaluate, and nominate sites to the NRHP and to protect, preserve, manage, and maintain cultural properties.

Indicator: *Accessibility of BLM-administered Lands for the Exercise of Treaty Rights or Tribal Interests*

Land tenure management can impact tribal rights and interests because treaty rights and trust responsibilities are linked to Federal land ownership; the disposal of public land diminishes the land base available for tribal members to exercise off-reservation treaty rights and may decrease access to other public lands. Under the Proposed Plan, some parcels of BLM-administered lands are available for disposal under FLPMA Section 203. Site specific consultation with Tribal Leaders would occur prior to any disposal, to ensure minimization of adverse impacts on tribal rights and trust responsibilities.

Indicator: *Number of Education and Outreach Events*
Cultural resource interpretation has short and long-term beneficial impacts through public education and outreach regarding discussion and preservation of traditional Tribal uses and cultural resources in the PA.

Management would continue to conduct regular Government-to-Government Consultation with Tribal leaders to solicit input on projects that may affect Tribal interests or cultural resources. In addition, an educational and outreach program that explains tribal uses within the PA has been implemented. The BLM would continue to implement this education and outreach program and would work with interested groups, such as the Shoshone-Bannock Tribes and Shoshone-Paiute Tribes, to develop additional interpretive programs that explain traditional uses and share those programs to provide education on these important aspects of cultural resources.

Indicator: *Acres of Ground-Disturbing Activities*
Due to the finite, exhaustible nature of cultural resources, long-term adverse impacts to both cultural resources and traditional cultural properties could be caused through surface-disturbing activities. Vegetation rehabilitation, wildfire suppression, mining, land use authorizations, and other activities associated with mechanical operations could impact surface and/or sub- surface cultural resources by alteration, destruction, or displacement from the original context, making scientific interpretation exceedingly difficult if not impossible. Ground-disturbing activities could also impact the context of known and unknown traditional cultural properties, which can extend to the landscape-level.

Impacts would be reduced or avoided through compliance with laws and executive orders designed to preserve and protect cultural resources. These include the Federal Land Policy and Management Act of 1976 (FLPMA) Sections 103(c), 201(a), 202(c), the National Historic Preservation Act (NHPA) Sections 106 and 110(a), the Archaeological Resources Protection Act (ARPA) Section 14(a), the Native American Graves Protection and Repatriation Act (NAGPRA), the American Indian Religious Freedom Act (AIRFA), and Executive Orders 13175 and 13007. Complying with management measures for authorized actions requires consultation with federally recognized tribes and input from other interested members of the public, identification and evaluation of cultural resources, and adherence to procedures for resolving any adverse effects and for mitigating impacts.

Ground disturbance from a variety of resource use activities could cause short- and long-term impacts on cultural resources. Under the Proposed Plan, up to 78,000 acres could be disturbed through BLM permitted activities, including restoration activities.

Surface-disturbing and other disruptive activities resulting from BLM-permitted activities (e.g., LUAs, mineral developments, etc.) would have the potential to directly impact previously unidentified subsurface cultural resources, which would result in displacement or loss (either complete or partial) of the cultural resource involved. Displacement of cultural resources adversely affects the potential to understand the context of the site and limits the ability to extrapolate data regarding prehistoric settlement and subsistence patterns. However, mitigation of impacts from discoveries is often accomplished through data recovery excavations that increase the understanding of prehistory. The number of unanticipated discoveries would be minor, but potentially concentrated in areas with active soil deposition. Potential impacts to cultural resources identified in a discovery situation would be greater than impacts to resources that were previously identified (and thereby avoided or subjected to mitigation measures) because damage to undiscovered sites occurs prior to their recordation and evaluation, thereby complicating mitigation procedures.

Displacement and loss of cultural resources would occur as a result of wildland fires, surface disturbance caused by suppression activities (e.g., construction of fire lines, bulldozing of access

roads, and general movement of heavy equipment), and post-fire rehabilitation activities. Due to the unplanned nature of wildland fires, impacts to cultural resources from wildland fires and suppression activities may be assessed subsequent to the fire. Some high-priority cultural resources have been identified for special protections and are included in the specific fire management plans.

Reintroduction of native species and traditional ethno-botanical resources in restored areas could return the vegetation community to a more native state and aid in the concealment of cultural resources. Measures to limit soil erosion and reduce ground disturbance would enhance the preservation of archaeological resources in the long term. Various management actions would provide beneficial impacts to 195,680 acres over the life of the plan (20 years) (Appendix Y). These numbers are not additive to those presented in other sections, as it is assumed that some areas would be treated more than once over the next 20 years. Adverse impacts related to restoration efforts are moderate to minimal compared to the effects of alluvial and fluvial erosion of non-restored areas, therefore these treatments provide a net benefit to paleontological resources overall.

Management of SRMAs and ERMAs would encourage recreation and the potential development of facilities, which could result in direct damage to cultural resources through ground-disturbing activities and indirect damage through the larger presence of human activity. Impacts on spiritual/sacred/traditional cultural resources could include actions that physically damage or destroy all or parts of a resource, actions that alter a significant element of a resource, actions that introduce visual or audible elements that could diminish the historical integrity or setting of a resource, or a lack of action that causes a resource to deteriorate. Protection of rock shelters would benefit Tribal interests, as rock shelters provide protection to cultural resources and some of the oldest archaeological remains are preserved in these sites. Rock shelters also represent some of the oldest "homes" used by indigenous peoples.

4.3 Paleontological Resources

Adverse impacts on significant paleontological resources typically result in the loss of information or integrity of a resource. Adverse impacts include physical damage to, or destruction of, all or parts of a resource and lack of proactive protection, which could result in resource deterioration. Beneficial impacts to paleontological resources result from special management measures that could enhance the quality of a resource or protect a resource from adverse impacts.

Identifying areas that contain high paleontological value for protection from degradation by designating those lands for retention in federal ownership would impact paleontological resources by protecting fossils that constitute a fragile or non-renewable scientific record of biological history in those areas.

Indicator: *Acres of Ground-Disturbing Activities*

Vegetation restoration activities are almost exclusively tied to emergency stabilization and rehabilitation treatments (ESR) following fire. Surface-disturbing activities associated with these efforts could have long-term adverse impacts on paleontological resources. However, adverse impacts related to restoration efforts are moderate to minimal compared to the effects of alluvial and fluvial erosion of non-restored areas, therefore these treatments provide a net benefit to paleontological resources overall.

Designating Sugar Bowl, Glenns Ferry, and McGinnis Ranch paleontological sites as open to leasing with an NSO stipulation and closed to solid leasable mineral exploration and development would help protect those known sites by removing potential surface disturbances related to mining activities.

Route designations and increased acreage closed to OHV use would protect paleontological resources that are located off the travel routes.

Paleontological resources are similar to cultural resources in their finite nature and unique ability to deepen understanding of the past. Impacts from ground-disturbing activities would therefore be very similar to those discussed for cultural resources. Refer to the cultural resources section (Section 4.2) and Tables 4.2.1 and 4.2.2 for potential impacts on paleontological resources. To the extent that ground disturbance, restoration, and land tenure adjustments occur, these activities could impact paleontological resources.

4.4 Vegetation Resources

Vegetation resources can be impacted by management activities and natural events (i.e., wildfire) in two primary aspects: extent (acres) of vegetation community, and the condition of the plants within a vegetation community. This analysis will focus on the extent of vegetation community and describe effects in regard to changes in acreage. Indicators are used to assess the outcomes of the Proposed Plan on plant communities and their associated wildlife species that depend on the plant communities for habitat needs. Discussions on condition are included in the analysis qualitatively where possible and applicable; however, discussion of condition indicators is best described during subsequent site-specific evaluations during implementation activities.

Discussion of Impacts

***Indicator**: Acres of Wildfire Disturbance*

Disturbance resulting from wildfire has the highest likelihood of causing changes at the vegetation community scale (e.g., aspen and mountain shrub change to evergreen forest; shrub steppe and perennial grassland change to exotic annual grassland). While an individual wildfire may not result in these changes, repeated wildfires can reduce resiliency of vegetation communities and result in community changes.

Natural and human-caused wildfires burn on average 9.8 percent of the public lands in the PA annually, though many of these acres have burned multiple times. Although wildfires can be natural events that may, or may not, result in negative effects to the vegetation component of the landscape, the degree and direction of change is a result of the condition of the plant community and the ability to recover (resilience), and compete with invasive species (resistance) (Chambers et al., 2014b). The recurrence interval and severity of the wildfire also factor into the response of the plant community. Table 4.4.1 pg. 93 of the Draft RMP/Draft EIS displays estimated acres of wildfire disturbance by alternative. Effects of the Proposed Plan are similar to those described for Alternative D in the Draft RMP/Draft EIS.

***Indicator**: Permitted Surface-disturbing Activities*

Human disturbance from permitted activities (e.g., LUAs, mineral developments, etc.) typically remove the vegetation community during construction activities. As the Reasonably Foreseeable Development (Appendix Y) only estimates disturbance of approximately 58,470 acres over the life of the plan, this would impact only 7% of lands within the PA. Dispersed human disturbance such as dispersed recreation use and livestock grazing do not typically result in changes at the vegetation community scale. However, if improperly managed, they can reduce resiliency in vegetation communities, making them more susceptible to community scale changes over time.

***Indicator**: Acres of Restoration and Rehabilitation*

Restoration and rehabilitation activities address conversion of a non-desirable vegetation community by restoring desirable community types. These type of activities increase areas' resistance to invasion by exotic annual grasses and post-fire recovery of perennial-dominated rangelands would be

improved over the current condition. See the FRFO Draft RMP/Draft EIS Section 4.4, pg. 94-95.

In addition to ESR projects, rangeland and riparian communities would be prioritized for restoration or improvement and forested communities (aspen) would be treated and revitalized.

The degree of habitat degradation and specific methods used to accomplish restoration are primary factors influencing short-term impacts on upland vegetation. Restoration activities that supplement existing desirable vegetation, such as re-establishing shrubs in perennial grass-dominated communities, may use aerial seeding techniques that would have no direct impact on existing vegetation in the short term.

Restoration activities that disturb the soil could increase the potential for noxious weeds and invasive plants over the short term if seeded species do not out-compete them. Treated areas would become more resistant to noxious weeds and invasive plant establishment over the long term, as desirable perennial species become established. Short-term reductions in vegetative cover would make soils more susceptible to erosion, which could reduce productivity over the short and long term, depending on the degree of soil loss. Highly erodible soils dominated by annual vegetative cover would be most vulnerable to this impact.

As perennial species become established in treated areas, natural succession would return over the long term. Shallow-rooted annual species would be replaced by a diversity of moderate to deep-rooted perennial species that more closely represent the original functional and structural components of the sites being restored. The return of these components would result in a variety of long-term benefits, including improved nutrient cycling, increased and more stable productivity, greater resistance to disturbance (including establishment of noxious weeds), reduction in fragmentation, and longer intervals between wildfires (Tilman et al. 1997; Hooper and Vitousek 1997).

Successful projects would have beneficial long-term impacts by improving upland communities and moving vegetation from annual to perennial-dominated communities. Restored areas would provide long-term benefits to adjacent perennial communities by reducing noxious weeds, invasive plant sources, and threats from wildfire (Keeley et al. 1999).

4.5 Special Status Species

4.5.1 Special Status Animals (SSAs)

Type 1 SSAs are managed in accordance with ESA guidance and USFWS Biological Opinions and/or Conservation Agreements for Threatened and Endangered species. The analysis for Type 2 SSAs is based on the plant communities/habitats described in Section 3.5 of the Draft RMP/Draft EIS pg. 75-76: evergreen forest, aspen and mountain shrub, shrub-steppe and perennial grass, exotic annual grassland, riparian and wetlands, and the addition of canyon/cliff/rock habitats. Type 2 SSAs are primarily associated with one of the five plant communities as defined in Chapter 3, Special Status Animals. For the purposes of this analysis, the species identified in Chapter 3 are considered umbrella species used to indicate potential effects to other wildlife that use the same plant community for the majority of their life cycle.

SSAs would experience the effects reported for their associated plant community. Effects to plant communities include management actions that would alter habitat directly, or through factors such as expected levels of disturbance, access, development, and fragmentation. For this reason, habitat impacts related to the broader vegetation communities will be presented once in the Fish and Wildlife section of this document. The effects presented there can be considered similar for both SSAs and other wildlife that primarily use those vegetation communities.

This section will focus on impacts that are unique to the SSAs described in Chapter 3. Where applicable, SSAs (this section) and wildlife (Fish and Wildlife section) are also discussed by specific habitat types, such as winter range, or by other important habitat groups, such as habitat management areas designated for Greater Sage-Grouse through the 2015 ARMPA. The Greater Sage-Grouse analysis area is within the Idaho Desert and Mountain Valleys Conservation Areas. Analysis for special status aquatic species (e.g., redband and bull trout) focuses on streams occupied by those species and adjacent uplands. If spatial data are available that delineates distribution, the analysis focuses within that area.

Discussion of Impacts

***Indicator**: Riparian and Wetland Proper Functioning Condition*

Proper functioning condition (PFC) is a minimum standard and indicates that riparian condition is stable enough to maintain hydrologic function. The majority of streams in the PA are currently meeting PFC as a result of management under Alternative A (79 percent); however, only 42 percent of springs and wetlands meet the minimum standard. It is expected that, under the Proposed Plan, 83 percent of streams in the PA would be at PFC within 5 years. In 10 years, 85 percent of streams in the PA would be at PFC.

The amount and quality of riparian habitat provides value to species utilizing these habitats. Riparian and wetland habitat is used by nearly every wildlife species in the PA at some point in their life cycle, providing an essential water resource and a diversity of vegetation for forage, cover, and structure for nesting habitat. Riparian areas are extremely important to wildlife, including several species of SSAs. Within the PA, improperly managed livestock grazing has potential to negatively impact riparian areas because livestock tend to congregate in those areas. The Proposed Plan provides management direction to complete restoration of riparian areas by establishing desirable vegetation and for protection of riparian areas from the impacts of livestock grazing through construction of riparian exclosures or changing season of use. Fences would be constructed to reduce impacts to wildlife. Other actions that could impact riparian areas, such as timber harvest and road building, would follow the guidelines in the Aquatic Riparian Management Strategy (ARMS). The ARMS would lead to reduced impacts to riparian areas and therefore greater benefits to wildlife. See the FRFO Draft RMP/Draft EIS Section 4.5.1, pg. 94-96.

***Indicator*: Habitat Protection through Fuel Break Treatments**

Loss of habitat for SSS continues to occur due to wildfire and subsequent establishment of exotic annual grasses and noxious weeds. The development of fuel breaks can reduce the amount of acres burned by wildfire and protect restoration efforts.

Habitat across the PA has and continues to be impacted by wildfire, especially in the low elevation sagebrush-steppe. Many of these areas have burned multiple times and are now dominated by invasive exotic annual grasses. Each alternative proposes development of fuel breaks to reduce the continued loss of habitat. Fuel breaks have been shown to be effective and are becoming more widely recognized as a valuable tool as anchor points for firefighters to safely engage in suppression activities to contain and control wildfire in all vegetation types. While fuel breaks can lead to habitat fragmentation for some species, fragmentation caused by fuel breaks is often only a fraction of the size compared to fragmentation caused by wildfire. Further, fuel breaks created in areas with exotic annual grasses would not lead to fragmentation, since those areas do not provide suitable habitat for sagebrush-obligate wildlife. Implementation and upkeep can require herbicide use to decrease exotic annual grass cover and maintenance can cause temporary disturbance to wildlife. Creation of fuel breaks would also help protect restoration efforts.

The Proposed Plan would allow fuel break development in areas across the PA but restricts the development of fuel breaks in WSAs and the Sheep Mountain/Wildhorse River Area. It would allow the use of non-native vegetation in the development of fuel breaks, which provides a greater likelihood of establishing effective fuel breaks. The development of effective fuel breaks would reduce the acres burned and protect restoration efforts, and therefore provide the greatest benefit to SSS. See the FRFO Draft RMP/Draft EIS Section 4.5.1, pg. 96-97.

***Indicator*:** *Restoration Potential in Areas Dominated by Exotic Annual Grasses*
Much of the PA is invaded with annual grasses that degrade habitat conditions, especially for Special Status Species associated with sagebrush steppe habitat. Preventing the loss of sagebrush steppe habitat to annual grasses would benefit wildlife throughout the PA. See the FRFO Draft RMP/Draft EIS Section 4.5.1, pg. 97 for additional analysis.

The Proposed Plan would utilize a variety of non-native and native species for ecosystem restoration, which would result in a diversity of plant species across the restoration area that would benefit SSAs. While non-native species may not provide ideal habitat, they are a much better alternative than invasive annual grasses and can augment the restoration of more desirable species once annual grasses are not driving the ecosystem. This would benefit SSAs in the long term.

4.5.2 Special Status Plants (SSPs)

***Indicator**: Acres of SSPs Managed as RNAs and/or ACECs*
Under the Proposed Plan, a total of 60,550 acres would be managed as ACECs, none of the acres would have specific protections for SSPs from special designations in the Proposed Plan. However, these species would continue to be managed in accordance with BLM Manual 6840 – Special Status Species Management in order to minimize and/or eliminate threats to these species. Special status plants would continue to be protected in accordance with BLM policy to ensure maintenance and enhancement of populations and habitat. Under the Proposed Plan, impacts to special status plant species would be negligible.

***Indicator**: Acres Avoided or Excluded from Surface-Disturbing Activities near EOs*
Buffering streams according to INFISH guidance and ARMS (Appendix F), would reduce impacts associated with surface-disturbing activities. Erosion and increased sedimentation as a result of surface-disturbing activities outside the buffers could have impacts on SSPs and their habitats in localized areas. Wetland-associated SSPs such as Cusick's camas, shining flat sedge, stalk-leaved monkeyflower, Indian Valley sedge, Douglas' clover, and Bacigalupi's dowingia, and their habitats, would experience fewer disruptive impacts from the establishment of riparian buffers.

Allowing surface-disturbing activities within EOs under the Proposed Plan would potentially reduce habitat, seedbank, and necessary pollinators, although individual plants would be protected. Concentrating livestock activities, such as positioning salting/supplements and water developments a minimum of 0.25-mile from Type 2 SSP EOs, would be effective in reducing congregation impacts.

Some level of OHV use would be allowed in the PA under the Proposed Plan, potentially resulting in impacts to SSPs. OHV use could adversely impact SSPs and their habitats, including slickspot peppergrass, in the short term, by crushing and shearing plants, and in the long term, by compacting and disturbing soils, introducing noxious weeds and invasive plants, and increasing wildfire risk. Over 99 percent of the combined habitats and management areas for slickspot peppergrass occur within areas designated as limited. Less than one percent of the combined habitats and management areas for slickspot peppergrass occur within areas designated as closed. Excluding new roads within SSP EOs would help maintain SSPs, their habitat, seedbank, and necessary pollinators.

***Indicator**: Vegetation Improvements Associated with Restoration*

Inclusion of native plants and/or non-invasive, non-native species, where the use of natives is not practical or feasible in rehabilitation/restoration projects would promote native, intact vegetation communities and SSP habitat. Non-native species may be used for site stabilization, wildfire fuel breaks, or invasive plant control where type conversion has occurred and where future plans for wildlife habitat restoration are not the priority. Seeding of non-native grasses in areas that still retain a native component risks losing the capacity of native extant plant regeneration and also can reduce the success of future restoration (interseeding) actions, because of the competitiveness of some non-native grasses. Intact native plant communities are more likely to have higher species diversity and provide the necessary pollinators for SSPs. Fencing areas where surface-disturbing activities are likely to impact special status species would reduce adverse impacts on SSPs within the fenced area.

4.6 Fish and Wildlife

This section considers effects to wildlife based on associated plant communities and incorporates the analysis of impacts to SSAs, as the indicators described in section 4.5, Special Status Animals, also relate to wildlife generally. The analysis for Vegetation Resources, section 4.4, also provides useful information to assess habitat condition.

For the purposes of this analysis, fish and wildlife include big game, other game species such as game birds, some small mammals, and other wildlife that are not designated as sensitive. This section focuses primarily on big game species. Due to their dependence on the habitat provided by the broad vegetation communities, the impacts to wildlife in general can be inferred from the effects on the big game species described. Presence or availability of these vegetation communities indicate potential available habitat data for these species in the PA. The primary management considerations for big game are land use authorizations that contribute to fragmentation of shrub-steppe habitat, forage availability on winter range, and the security of specific habitats, such as bighorn sheep habitat, and mule deer and pronghorn fawning areas. Indirect effects of habitat fragmentation may result from increased access, recreational use, and additional infrastructure. Also considered is the condition of transitional habitat between summer and winter range, such as evergreen forest, which on BLM lands is generally lower elevation ponderosa pine and Douglas fir stands on the forest edge used primarily in the fall during hunting season and in the spring for elk calving and mule deer fawning.

Key habitats considered for big game are winter range, which is primarily in the shrub-steppe and perennial grass plant community, fawning/calving areas, and bighorn sheep habitat.

Discussion of Impacts

***Indicator:** Acres of Disturbance within Floodplains and Streambeds*

Table 4.4.2 pg. 94 of the Draft RMP/Draft EIS estimates acres of permitted disturbance (new ROW, new rock and mineral extraction, new roads and trails, commercial logging/firewood extraction etc.) by alternative. Effects of the Proposed Plan are similar to those described for Alternative D in the Draft RMP/Draft EIS. Impacts on fish and wildlife from water resource management activities result from a change in water quality and quantity. Management activities that allow diversion of water out of natural water features, such as springs, reduce the quantity of water available to fish and wildlife. A reduction in water quantity would ultimately reduce the extent of riparian vegetation and decrease habitat availability.

Water quality is related to the integrity of adjacent riparian and upland habitat within a watershed. Management actions that relocate, close, or mitigate roads and OHV trails located in floodplains or streambeds, improve riparian and aquatic habitat by reducing vegetation impacts, bank erosion, and sedimentation.

Indicator: *Acres of Plant Community at Desired Condition*

This indicator compares the expected level of fragmentation to the shrub-steppe and perennial grass plant community, considering fences, infrastructure, energy development, ROWs, other LUAs, and fire within key habitats and corridors. Fragmented and degraded landscapes can decrease the carrying capacity and species richness of wildlife habitats by limiting the amount of available cover, forage, and prey species (Smith and Johnson 1985; Kotler 1984; Young et al. 1972). Islands of intact sagebrush and perennial grasslands surrounded by degraded lands support limited wildlife and species richness. One of the greatest threats to sagebrush and grassland-obligate species is the conversion of remnant and restored low elevation, sagebrush-steppe habitat into monocultures of exotic grasses and forbs (Wisdom and Rowland 2007). Increased risk of wildfire ignition and spread poses a significant threat to hiding, thermal cover in winter range, and winter forage availability. Vegetation communities that burn repeatedly impact wildlife as perennial habitats are converted into monocultures of exotic annual grassland that provide limited forage and cover. Vegetation treatments that alter tree species composition or stand structure may result in either a shift from late seral, mature forests to early seral forests, or to more open forests, depending on the harvest prescription used. Some timber harvest methods can improve forest health and decrease fuels.

To the extent that plant communities retain or attain desired conditions, the availability of wildlife habitat is impacted. Impacts of the alternatives are described in the Draft RMP/Draft EIS in: Section Table 4.4.2 pg. 94 displays the acres of plant community types that are expected and, by association, the potential amount of wildlife habitat available by plant community in the various alternatives and expected acres of permitted disturbance; Table 4.4.3, pg. 94 of the Draft RMP/Draft EIS describes acres expected to be restored or rehabilitated in each vegetation community, which would also impact the potential availability of wildlife habitat by alternative; Table 4.6.1 pg. 101 of the Draft RMP/Draft EIS describes land use allocations within big game winter range by alternative. Effects of the Proposed Plan are similar to those described for Alternative D in the Draft RMP/Draft EIS.

Indicator: *Acres of Restoration Activities*

Restoration projects that connect sagebrush islands would create larger blocks of intact habitat and decrease fragmentation. Restoration of shrub habitats would increase structural diversity for sagebrush-obligate wildlife over the long term (Knick and Rotenberry 1995). Restoring stands that have been degraded by livestock or conifer encroachment would enhance and expand this limited habitat for several resident and migratory species. Table 4.4.3, pg. 94 of the Draft RMP/Draft EIS describes acres expected to be restored or rehabilitated in each vegetation community.

Indicator: *Acres of Human Disturbance in Big Game Winter Range and Migration Corridors*

This indicator compares the acres of disturbance anticipated under each alternative and focuses on roads and access. It also considers important aspects of winter range such as hiding, thermal cover, and forage condition. The primary disturbance of concern for big game is herd displacement, particularly during winter months and deep snow years. When big game winter in low-elevation habitats, they are often in a weakened state and sometimes poor condition; disturbance is particularly damaging during these times. Disturbance activities, such as construction and OHV use, can have a substantial adverse impact on these species when they need to limit movement to conserve body fat. Critical times are very cold periods (often late winter), during late pregnancy, and birthing.

Surface-disturbing activities associated with mineral development would result in habitat loss and fragmentation. Restrictions on activities within big game winter range from November to April would reduce and/or eliminate the potential to disrupt normal behavior and decrease security. Impacts from transportation, travel, and recreational activities could include habitat loss or modification from recreational activities that affect wildlife, such as recreational shooting and cross-country OHV travel.

Human-wildlife interaction could cause animals to alter behaviors, home ranges, and habitat use, and to sometimes become physiologically stressed, especially during winter.

Table 4.6.1 - Restrictions within Big Game Winter Range for the Proposed Plan

Land Use Allocation	Acres
ROW Exclusion	17,090
Solar Exclusion	127,210
Wind Exclusion	227,000
Leasable Closed/NSO	112,690
Locatable Withdrawal	0
Salable Closed	39,140
OHV Open	2,200
OHV Closed	23,540
Available for Disposal	2,660

Evergreen Forest

Forest harvest can increase or decrease forest health depending on the condition of the timber planned for harvest and the harvest method used. These community types do not typically provide large wintering areas for wildlife except during unusually mild winters. Most species use this habitat in spring, summer, and fall, and then winter in other vegetation communities (aspen and mountain shrub or shrub-steppe and perennial grass).

Aspen and Mountain Shrub

Aspen and mountain shrub plant communities in the PA are well established and mainly occur at higher elevations. These areas continue to provide nesting habitat for migratory birds, thermal and hiding cover for other wildlife, and calving and fawning areas for big game. Restrictions for disturbance on winter range and within deer and elk fawning areas are in effect under all alternatives.

Shrub-steppe and Perennial Grass

Shrub-steppe is predominately used by big game as winter range. Winter range is a critical habitat component for big game species in the PA and supports substantial populations of elk and deer that summer on adjacent U.S. Forest Service managed lands. Although fragmentation affects all wildlife, it is a vital aspect of the function of winter range for big game species. The following discussion is also directly relevant to the condition of winter range in the PA.

Riparian and Wetland

Riparian and wetland areas provide important and sometimes critical habitat to a variety of wildlife species throughout the year. It is expected that under the Proposed Plan there is a potential for 2,500 acres of human disturbance within riparian and wetland areas.

Indicator: *Acres of Potential Domestic Sheep/Goat Use in Bighorn Sheep Habitat*

Domestic sheep can transmit disease to wild populations of bighorn sheep. Bighorn die-offs have been documented following known or suspected contact with domestic sheep and goats. Management actions that reduce or eliminate domestic sheep or goat grazing in or near occupied bighorn sheep habitat would reduce the risk of disease transmission from domestic sheep to bighorn sheep.

While the Proposed Plan would not increase risk of contact over current management, management over time would reduce risk of contact by requiring coordination with the Idaho Department of Fish and Game to achieve separation of domestic sheep and bighorn sheep. Risk of contact during sheep trailing activities would be reduced by coordinating with domestic sheep permittees and the State of Idaho to determine alternate trailing routes where Best Management Practices to reduce risk of disease

transmission are not effective. With proper management of domestic sheep grazing and implementation of Best Management Practices risk of contact would be reduced in the PA.

Indicator: *Acres of Public Land Identified for Disposal*

Under the Proposed Plan 2,820 acres have been identified for disposal (Appendix Y). The acquisition of private, state, or U.S. Forest Service (USFS) lands could consolidate larger blocks of public land and emphasize habitat improvement and migration corridor connectivity. Larger blocks of contiguous public land would allow for consistent habitat management. Consolidation of public land ownership would reduce habitat fragmentation and edge effects through consistent management. The disposal of public lands could eliminate habitat and allow uses that cause disruption and disturbance in wildlife habitats.

4.7 Aquatic Resources

This section describes the impacts of the Proposed Plan on naturally occurring aquatic resources, (e.g., riparian areas, wetlands) and water quality. There is a relationship between soil and vegetation resources and water quality such that removing vegetation or otherwise disturbing soil increases the likelihood of adverse impacts on aquatic resources. Specific impacts in the PA for management actions described in the Proposed Plan are included below in sections by indicator.

Indicator: *Acres of Ground-disturbing Activities*

Table 4.4.2 of the FRFO Draft RMP/Draft EIS, pg. 94 displays estimated acres of permitted disturbance. Effects of the Proposed Plan are similar to those described for Alternative D in the Draft RMP/Draft EIS. Forest treatments could locally impact aquatic resources by introducing ground disturbance or removing soil-stabilizing vegetation over the short term. In the short term, direct impacts of surface-disturbing activities (i.e., recreation and motorized vehicle use) include crushing and destroying riparian vegetation. Repeated localized impacts can limit plants' abilities to reestablish by reducing their numbers and reproductive capability. In the Proposed Plan, management actions that serve to protect and improve sage-grouse habitat would benefit aquatic resources, primarily through reducing surface-disturbing activities.

In the Proposed Plan, construction of roads for timber harvest could adversely impact aquatic resources by increasing surface disturbance, resulting in excess sedimentation; however, this impact would be short-term because roads would be closed and rehabilitated within one year of harvest within a forest unit. Sedimentation in streams would continue as a result of motorized recreational activities but to a lesser extent than current management. In addition to the benefits of the management of the WSR suitable segment of the Payette River, recommending an additional 17 miles as suitable for WSR designation could help protect these river segments from surface-disturbing activities, which would also protect aquatic resources. Management of the Box Creek (440 acres) and King Hill Creek (22,830 acres) Wilderness Study Areas (WSAs) in a manner that maintains their wilderness characteristics, would protect aquatic resources by reducing potential sedimentation.

Indicator: *Miles of Stream in Proper Functioning Condition*

It is expected that, under the Proposed Plan, 83 percent of streams in the PA would be at PFC within 5 years. In 10 years, 85 percent of streams in the PA would be at PFC. Maintaining and improving riparian and wetland areas in PFC would ensure that desirable vegetation would occur in a diverse mixture and exhibit appropriate vigor, growth, and reproduction relative to the site's landform, geology, and hydrology. The sites would be relatively stable even during typical flood flow (high flows reached every 5–30 years). Maintaining streams in PFC reduces sediment yields from eroding streambanks and facilitates natural sediment flow. Maintaining PFC and improving at-risk streams

and springs in would provide beneficial impacts on aquatic resources over the long term, through improved water quality and decreased sedimentation.

Indicator: *Acres of Restoration and Rehabilitation*
Re-establishing native trees and shrubs would benefit riparian areas and water quality over the long term. Established woody species would protect streambanks from erosion, provide shade, and improve water quality. Replacing shallow-rooted species with deep-rooted ones would improve the functioning condition of riparian areas, while sedimentation impacts on aquatic resources would be reduced over the short and long term. Restoration that results in a diverse composition of hydric species would benefit aquatic resources through increased resiliency to disturbance events, such as flooding, grazing, or fire.

Under the Proposed Plan, surface-disturbing activities associated with restoration efforts could have short-term impacts on aquatic resources by increasing the delivery of sedimentation; however, these activities would improve riparian conditions over the long term. Effects of the Proposed Plan are similar to those described for Alternative D in the Draft RMP/Draft EIS. Table 4.4.3, pg. 94 of the FRFO Draft RMP/Draft EIS details the annual estimated acres of rehabilitation or restoration by alternative.

4.8 Wild Horses

The analysis area for wild horses is limited to the Four Mile Herd Management Area (HMA) because this is the only area within the PA that has maintained a wild horse herd over the last 30 years. There are no wild burros in the PA. Specific impacts in the PA for management actions described in the Proposed Plan are included below in sections by indicator. The primary indicators used to assess impacts on wild horses are the health and productivity of rangelands in the HMA, health of wild horses, and potential conflicts between wild horses and other multiple uses and resources. The Proposed Plan would maintain the HMA at 18,800 acres. Effects of the Proposed Plan are similar to those described for Alternative D in the Draft RMP/Draft EIS.

Discussion of Impacts

Indicator*: Health and Productivity of Rangelands in the HMA*
Maintaining the Appropriate Management Level (AML) of the Four Mile HMA is necessary for ensuring health and productivity of rangelands and the species that inhabit the area. The number of AUMs of a specific area is dictated by the amount of forage available. Maintaining AML commensurate with the production and sustainability of the range ensures necessary forage and water for all inhabitants.

Gathering wild horses before AML levels are exceeded would reduce competition for food, water, and shelter in HMAs and allotments, and would maintain or improve rangeland health. By maintaining population size within the AML, rangeland resources would be sustained and protected from the deterioration associated with an overpopulation of wild horses. This would ensure a thriving natural ecological balance and multiple-use relationship on public lands in the area, consistent with the provisions of Section 1333(a) of the Wild and Free-Roaming Horses and Burros Act of 1971 (WFRHBA). The action would also result in fewer wild horses being placed into off-range corrals or pastures, or into the adoption and sale programs over the next 5 to 10 years. The overall habitat condition for wildlife, wild horses, and livestock would be given more opportunity to improve as the populations of horses would be maintained within the AML range for a longer period of time.

Indicator: *Health of Wild Horses in the HMA*
The use of population growth suppression (PGS) to reduce the population growth rates of horses would provide for healthier herds of animals by limiting the stress of continual pregnancy on the

mares. This would also hold true for any non-breeding animals where there are geldings, as they would not be exerting extra energy trying to breed the mares or defend territories. Sterilized mares would also be in better condition because additional energy would not be expended raising a foal. Another benefit to the horses would be less stress from being gathered; gathers would be scheduled more infrequently as the number of wild horses would remain within the AML for a longer period of time. The impacts of various PGS methods are generally well understood, are reviewed in Attachment 1 of Appendix O, and are not expected to change any animal's wild, free-roaming nature.

Including sterilization as a potential management action in the Proposed Plan is consistent with WFRHBA (16 USC § 1333(b)(1)). The management action could lead to Four Mile HMA becoming a herd that includes some non-reproducing animals, but enough reproducing animals would be maintained so that the herd would continue to be self-sustaining. In this sense, it would become an HMA with a partially non-reproducing herd. It is expected that any genetic impacts in the Four Mile HMA due to PGS use would be identified through regular genetic monitoring and could be mitigated as a result of regular management actions. If future genetic monitoring indicates cause for concern about genetic diversity in the Four Mile HMA, additional horses from other Idaho HMAs or from HMAs outside Idaho could be introduced to increase genetic diversity, in keeping with WHB Management Handbook H-4700-1.

Previous genetic monitoring results indicated that horses in all four HMAs in the Boise District appear to be genetically very similar, perhaps as a result of past or ongoing interchange (Cothran 2004).

***Indicator**: Interactions with Various Uses and Resources in the HMA*

A variety of managed uses occur within the HMA and would overlap with areas managed for wild horse values. Domestic livestock, wild horses, and wildlife coexist within the Four Mile HMA and compete for available forage. The entire Four Mile Herd Management Area is within both mule deer and elk winter range, continued competition between wild horses and big game during the winter months could result in reduced health of all herds.

To the extent that management actions occur or are authorized within the HMA, conflicts with other uses would occur. In the Proposed Plan, permitted livestock are removed from the Four Mile HMA during the winter to eliminate forage competition between permitted livestock, wild horses, and big game.

Although wild horses would still compete with big game for available forage over the winter, this competition is reduced because livestock are not within the HMA at this time. OHV use in the HMA has historically been low, thus adverse impacts on wild horses from OHV user harassment would be minimal. Visitors to the Oregon Trail within the southern portion of the HMA could potentially displace horses, seasonally forcing them into other portions of the HMA. If dispersed visitation occurred over several months, this could have a negative impact on the amount of available forage in other portions of the HMA, resulting in increased stress on big game, permitted livestock, and wild horses.

The Proposed Plan maintains the current delineation between private landholdings and domestic horses on adjacent lands by maintaining the current boundary fence. Other than OHV use in the HMA, the HMA has low potential for oil and gas development, no forestry resources, and limited demand for land use authorizations, so disturbance would occur at relatively low levels. However, wild horses could be adversely impacted by surface-disturbing activities associated with these activities and the removal of vegetation, increased human presence, fragmentation of habitat, or restricted roaming of wild horses within a very small portion of the HMA.

4.9 Wildfire Ecology and Fuels Management

The analysis area for wildfire ecology and fuels management is BLM public lands within the PA. Drivers of impacts to fire ecology and fuels management include fire and fuels management actions, proposed vegetation management activities, and other management activities that could restrict or prevent potential wildfire ignition sources associated with various development and motorized recreation activities. Key indicators of impacts include resilience of vegetation communities to fire; management actions that influence fire size, severity, and intensity; risk to public and firefighter safety, and risk of human-caused ignitions. Estimated acres burned by alternative for each vegetation community can be found in the Draft RMP/Draft EIS in Table 4.4.1 in Section 4.4, Vegetation Resources; impacts for the Proposed Plan are similar to those described for Alternative D.

Discussion of Impacts

***Indicator**: Risk to Public and Firefighter Safety*

The protection of human life is the single, overriding suppression priority. A variety of tools and methodologies (biological, mechanical, and chemical) would be used to meet fuels objectives.

Implementing the Proposed Plan would reduce hazardous fuel loads and wildfire risks. Less risk results from lowering woody and/or herbaceous fuel loads and maintaining low- risk wildfire conditions for vegetation within, and adjacent to, WUI areas. In general, those areas which receive more treatments would reduce their long-term risk of wildfire. Wildfire suppression and prevention in SSS habitats and special designation areas would be a natural resource priority, utilizing non-surface-disturbing techniques whenever possible.

When prescribed fire is used, some increased risk to public and firefighter health and safety would exist. This risk is short-term and much lower than risks associated with unplanned wildfire. Mitigation measures and contingency plans would minimize the risk of an "escaped" prescribed fire.

***Indicator**: Resilience of Vegetation Communities to Fire*

A range of vegetation treatments including prescribed fire, mechanical, biological, and chemical, would be used to enhance native vegetation communities to maintain or restore natural fire regimes. Fire and non-fire treatments would reduce the spread of noxious weeds, increase the health and distribution of native vegetation adapted to fire's natural role, and improve vegetation structure and composition directly related to wildfire return interval over the short and long term. Successful rehabilitation would improve the health and distribution of native vegetation adapted to fire's natural role and improve vegetation structure and composition directly related to wildfire return interval, size, severity, and intensity over the short and long term. Used effectively, prescribed fire would increase the health and distribution of native vegetation adapted to fire's natural role and improve vegetation structure and composition directly related to wildfire return interval, size, severity, and intensity, over the short and long term. Conducting active fuels management would reduce the number of acres burned and potentially improve plant community resiliency to wildland fire. Fuel breaks, for example, would help reduce fuel continuity and provide anchor points for fire suppression.

***Indicator**: Fire Size, Severity, and Intensity*

In some situations (e.g., fuel breaks), livestock grazing could reduce fine fuels and decrease wildfire spread capacity (Zimmerman and Neuenschwander 1984). Livestock can provide short-term benefits by reducing accumulated fuel loads that could otherwise potentially increase the frequency, size, or severity of a wildfire (Pellant 2000). However, the effectiveness of livestock grazing to manage fuel loads depends on a variety of factors, including season of use or amount of fuel loading in a given year.

Spring grazing would have the greatest potential for reducing fuel loads in annual-dominated

communities. Fuel breaks in perennial-dominated areas would benefit from deferred use or fall and/or winter use. Fall and winter grazing have been shown to reduce the abundance of cheatgrass fuels while maintaining an abundance of perennial grasses. However, effective control during high precipitation years might require stocking levels detrimental to desirable species and would result in increased soil disturbance. In years with greater than average precipitation, timing for grazing of annual grass biomass removal is key to reducing fire risk. However, in the long term, the accumulation of larger fuel sources (e.g., shrub vegetation) between fires would increase the potential for larger, more intense wildfires. The utilization of annual grass with the addition of up to 9,635 AUMs strategically implemented across 19,270 acres of rangeland dominated by annual grasses would provide additional flexibility to ensure that fine-fuel loading is reduced in fire prone areas, thereby reducing the potential for fire spread and extending the fire return interval.

Water developments for livestock would provide additional sources of water for fire suppression activities. Restricting livestock use in rehabilitated areas, until objectives are met, would provide adequate time for perennial vegetation to establish, which would reduce fine fuels and future fire severity. When rehabilitated or restored areas are again available for livestock use, the area would be re-evaluated to determine which grazing practices would best provide for the long-term maintenance and protection of the restored area.

Indicator: *Risk of Human-caused Ignitions*

Increases in public land use, mainly for recreation and activities associated with adjacent private land development, would affect the need for fire and non-fire treatments, mitigation strategies, education, hazard reduction plans, and wildfire prevention. Recreational activities, such as OHV use, camping, and backpacking, can increase the potential for human-caused ignitions by campfires and sparks. Travel designations provide access throughout the PA, which could result in adverse impacts by increasing the incidence of human-caused fires. Increased access may also increase the potential for fire in more remote locations that are more difficult to respond to and control. Approximately 30,290 acres would be closed to OHV use. Closing areas to shooting within 0.25-mile of recreational sites, Payette River SRMA, and OHV open areas (19,630 acres) to shooting would decrease the chance of human-caused ignitions in these areas. Closing areas to camping and campfires (47,650 acres) would further reduce impacts from human-caused fires and recreational activities.

4.10 Air Quality

Air resources in the PA were evaluated to determine how future BLM actions could impact air quality. The area of consideration (AOC) in the impact analysis includes the area within 62 miles of the PA identified as sensitive to air quality impacts. Actions that initiate or increase emissions of air pollutants can adversely impact air resources, including increased concentrations of air pollutants, decreased visibility, increased atmospheric deposition on soils and vegetation, and acidification of sensitive waterbodies. Actions that reduce or control emissions of air pollutants can be very effective at improving air quality and preventing air quality degradation. Figure 7 in Appendix P depicts Sensitive Air Quality Areas in relation to the PA.

This section addresses the potential impacts of air pollutant emissions from specific activities authorized, allowed, or performed by the BLM in the PA under each alternative.

The qualitative analysis that follows was performed due to the limited potential for air quality impacts in the PA. Air pollutant emissions are estimated and the possible impacts are described. In order to obtain air pollutant concentrations, a *quantitative* air quality dispersion modeling analysis would have to be performed. This type of quantitative modeling analysis is not justified at the land use planning scale.

Discussion of Impacts

Fugitive dust would be controlled during construction, operations, and maintenance activities by watering and posting vehicle speed limits in accordance with applicable Idaho regulations. Gravel on high-use roads would reduce fugitive dust emissions by reducing the silt content of the surface material. Water sprays or chemicals would reduce fugitive dust emissions on roads.

Air Quality Related Values (AQRVs)

The potential impacts on AQRVs resulting from activities within the PA under any of the alternatives considered are addressed on pages 33 and 34 of the Technical Support Document (Appendix P). As stated in that section, the cluster of 22 oil and gas wells on public lands will not adversely impact AQRVs within the PA.

Impacts from Vegetation and Forestry Management

Vegetation treatments would have effects on air quality where prescribed fire and non-fire methods, including chemical and mechanical treatments, are used. The effects of vegetation treatments on air quality from non-fire methods would include fugitive dust resulting from light and heavy-duty vehicles traveling over unpaved roads. Pollutants from the combustion of fossil fuel from mobile equipment and vehicles would result in emissions of particulate matter (PM), oxides of nitrogen (NO_x), sulfur dioxide (SO_2), carbon monoxide (CO), volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and greenhouse gases (GHGs) during treatment operations.

Under the Proposed Plan, approximately 27 tons per year (tpy) of PM_{10} (particles with diameters <10 micrometers) and four tpy of $PM_{2.5}$ (particles with diameters < 2.5 micrometers) would result from vegetation and forestry operations. The direct impacts on air quality would be short-term and result primarily from fugitive dust associated with the operation of vehicles on unpaved surfaces, logging operations, and gaseous emissions from combustion-powered vehicles and machinery. The air emissions would occur only during active operations and would be completely dispersed or deposited within hours to days. A majority of particulate emissions generated from vegetation treatment activities would settle out quickly near their point of generation.

Commercial logging and related forestry activities would remain at the same level in the Proposed Plan. Slash pile burning following logging creates PM emissions. Particulate and gaseous emissions (except for NO_x) from vegetation and forestry activities are projected to be a small fraction (less than 0.3 percent for both particulates and CO, SO_2, HAPs and VOCs) of fire emissions (from wildland fire and prescribed burning), as shown in Tables 2 and 3 of Appendix P; impacts for the Proposed Plan are similar to those described for Alternative D in the FRFO Draft RMP/Draft EIS.

Wildland and Prescribed Fire Smoke Management

Wildland fires and prescribed burning produce ozone, CO, and PM from burning vegetation. These emissions under certain meteorological conditions may affect large areas for extended periods of time; however, impacts are generally short-term, localized, and seasonal. Prescribed burns and controlled wildfires may be instrumental in minimizing, or limiting, overall PM concentrations since they reduce fuel load accumulation that can subsequently result in intense, long-duration, and uncontrolled wildland fires.

In fire management, the primary method of reducing particulate impacts from wildland fires has been suppression. Fire suppression would remain a central strategy under the Proposed Plan in order to reduce emissions of PM and smoke from wildland fires. Mechanical fuels treatments and prescribed fire treatments could also be used to varying degrees to reduce the chances for wildland fire development. The planned nature of these treatments would allow the BLM to schedule and locate them for optimal control of emissions.

Under the Proposed Plan, approximately 8,970 tpy of PM_{10} and 7,510 tpy of $PM_{2.5}$ would result from fire and fuels treatments (prescribed fire, wildland fire, and forestry slash pile burning). The direct impacts of fire on air quality are generally short-term, with smoke dissipating within hours to days.

The long-term impact of full fire suppression and minimal prescribed fire may result in a continuing trend toward more severe and uncontrolled wildland fires. These fires have the potential to create more smoke emissions than smaller controlled fires and cannot be timed to minimize impacts on existing air quality conditions. Higher pollutant concentrations and greater impacts on maintenance areas could increase as a result of these fires. Impacts on human health could also increase, particularly exposure to PM. Some events could require special precautions to be taken to protect the health of sensitive members of the public.

The use of mechanical treatments could cause short-term increases in exhaust and fugitive dust from the use of mechanical equipment. Future planned mechanical treatments would be analyzed through the NEPA process to ensure compliance with air quality standards and to reduce impacts on sensitive areas.

An increase in the duration and intensity of the fire season has resulted in an increase in particulates (both PM_{10} and $PM_{2.5}$), oxides of nitrogen (NO_x), carbon monoxide (CO), ozone (O_3), and greenhouse gases (carbon dioxide [CO_2], methane [CH_4], and nitric oxide [N_2O]) both within and outside of the PA from burning vegetation.

An increase in fire potential and severity would result in an increase in both PM_{10} and $PM_{2.5}$, NOx, CO, O_3, and greenhouse gases (CO_2, CH^4, and N^2O). With the average burn duration expected to increase, the length of time these air pollutants would remain in the atmosphere would increase.

Minerals Development

Fluid Minerals

Section 2 of Appendix P provides a detailed analysis of projected fluid mineral (gas) development within the PA. An air emissions inventory (EI) was prepared for a "typical gas well," based upon a study prepared in 2013 and updated for the BLM in 2014 (Kleinfelder & Environ 2014). According to the Kleinfelder Report, particulate estimated annual emissions from a "typical" gas well are 6.7 tons of PM_{10} and 0.8 tons of $PM_{2.5}$, respectively and are primarily associated with road use and construction. The well emissions can be assumed representative of PA wells.

The projected locations of the gas wells are not near an air quality non-attainment area. Due to the limited number of drilled gas wells, the impacts from particulates and gaseous air pollutants, HAPs, VOCs, and GHGs would be short-term and localized. Additionally, the PA is not located in an area that is expected to exceed the NAAQS or Prevention of Significant Deterioration (PSD) increments. Therefore, a determination was made by the BLM's National Operations Center Technical Workgroup that a refined (detailed) air quality modeling would not be required.

Air emissions would be produced during all phases of fluid mineral development, including exploration, road construction, production, abandonment and road closures, and reclamation. During exploration and development, traffic from heavy and light vehicle use on unpaved and paved roads would cause emissions of PM, CO, NO_x, SO_2, and VOCs from combustion processes and construction activities.

During fluid mineral activities, PM emissions would be produced from truck loading, bulldozing, storage piles, and travel of heavy equipment over unpaved roads. Pollutants from the combustion of fossil fuel from mobile equipment, vehicles, and generators would result in emissions of PM, NO_x, SO_2, CO, VOCs, HAPs, and greenhouse gases that would be emitted primarily during operations. The

air emissions would occur only during active operations and would be completely dispersed or deposited at the conclusion of operations. Typically, fugitive particulate emissions generated from fluid minerals and transportation activities would settle out quickly near their point of generation depending upon meteorological conditions. The intensity of the air emissions would be concentrated at the site-specific perspective.

Particulate emissions from new road construction and use as well as equipment (compressor) operations would be the primary air quality concerns associated with gas well development in the PA. All fluid minerals development would require conformance with IDEQ air quality regulations and permitting requirements.

Locatable Minerals

Air emissions would be produced during all phases of localized mineral development, including overburden removal, blasting, road construction, road closures, and reclamation. Traffic from heavy and light duty vehicle use on unpaved roads would cause emissions of PM, CO, NO_x, SO_2, and VOCs from combustion processes and construction activities. Pollutants from the combustion of fossil fuel from mobile equipment, vehicles, and generators would result in emissions of PM, NO_x, SO_2, CO, VOCs, HAPs, and GHGs that could be emitted primarily during operations. The air emissions would occur only during active operations and would be completely dispersed or deposited at the conclusion of operations. There are 21 known mining districts within or adjacent to the PA with a total of 3,494 mining claims (BLM 2008b). Typically, fugitive particulate emissions generated from locatable minerals and transportation activities would settle out quickly near their point of generation depending upon meteorological conditions.

The intensity of the air emissions would be concentrated at the site-specific perspective. Impacts on air quality from fugitive dust would be short-term, with dust settling within hours to days. However, ongoing locatable minerals operations may result in longer-term, ongoing fugitive dust impacts on air quality.

Salable (Mineral) Materials

The development of mineral materials (primarily sand and gravel operations) would result in short-term, localized air quality impacts from fugitive dust (PM_{10} and $PM_{2.5}$) due to earth-moving activities and operation of vehicles on unpaved surfaces. Dust would settle within hours to days. As a result of mobile and stationary equipment activities, an increase in fugitive dust, CO, NO_x, VOCs, CO_2, and CO_2 equivalent to that associated with tailpipe emissions would occur.

Direct impacts would be a likely increase in fugitive dust, PM, CO, VOCs, CO_2, and CO_2 equivalent associated with vehicle tailpipe emissions from mobile and stationary construction equipment. PM_{10} and $PM_{2.5}$ annual emissions from mineral materials (sand and gravel operations) are the same for the Proposed Plan since the annual disturbed acreage (annual development, annual disturbed acreage for wind erosion calculations, and reclamation) and projected equipment usage is relatively low in the Proposed Plan (Table 2 of Appendix P). PM_{10} emissions from mineral materials comprise about 14.3 percent of the total emissions among all indicators, and $PM_{2.5}$ emissions are nearly 2 percent of total emissions among all indicators. GHG emissions are almost the same across all alternatives and comprise about 3 percent of the total emissions from all indicators (Table 3 of Appendix P).

Geothermal Development

The geothermal potential for the PA indicates that a 50-megawatt (MW) plant may be developed in those areas determined to have high potential for indirect use (BLM 2010c). A 20 MW geothermal power plant might be developed anywhere along a northwest-trending fault zone, particularly on the southwest (valley) side of the fault zone, over the life of the RMP. The disturbance associated with

development of a 50 MW plant is estimated to range from 147 to 181 acres, while disturbance from developing a 20 MW plant would range from 60 to 75 acres. Short-term impacts would include increased concentrations of NO_2, particulates, and VOCs.

Travel and Transportation Management
Vehicles would cause fugitive dust emissions of PM from traffic on unpaved trails and emissions of PM, NO_2, SO_2, CO, and VOCs directly from tailpipes. In winter, tailpipe emissions primarily occur from snowmobiles. Particulate emissions from travel on paved and unpaved roads and gaseous tailpipe emissions would occur. Upward trends in populations in the PA could create the potential for more localized emissions. The intensity and duration would depend on the level of increased recreational traffic and weather conditions. GHG emissions are projected to be very low and are similar to emissions under each of the other alternatives (Tables 2 and 3 of Appendix P).

Recreation Management
The use of recreational vehicles and OHVs could increase air emissions. Emissions from the use of recreational vehicles and OHVs are projected to be the same for all alternatives (27 tpy for PM_{10} and 4 tpy for $PM_{2.5}$). Gaseous pollutant emissions are near zero (Tables 2 and 3 of Appendix P).

Livestock Grazing Management
Livestock grazing impacts on air quality are a function of the number and density of the animals. Trampling of vegetation, over-utilization of ground cover, and lack of moisture could result in an increase of both gaseous pollutants (especially nitrogen-related products such as nitrates and ammonia) and particulates (fugitive dust). Soil compaction in areas of concentrated use reduces soil stability and increases the opportunity for fugitive dust. Soil disturbance from hoof shear and bedding would create habitat for noxious weeds and invasive plants, which could increase the overall competition with native species for limited resources such as water, nutrients, and space (Laycock and Conrad 1981).

Summary of Impacts to Air Quality
As depicted in Tables P-5 and P-6 in Appendix P, emissions per specific air pollutant are nearly the same across all alternatives. Emissions for the Proposed Plan are similar to those described for Alternative D in the Draft RMP/Draft EIS pg. 108-112. While no discernible trend toward degradation of air quality is present within the PA, reduced air quality could emerge over time as a result of increases in pollutants from commercial operations, recreational use, and wildland fires. However, these impacts are typically localized and seasonal, minimizing the overall amount of expected degradation. The impacts on visibility degradation and atmospheric deposition within the PA from resource management actions would be similar for the Proposed Plan since air emissions do not vary much between alternatives.

Greenhouse Gas (GHG) Emissions
GHGs emitted from human activities are long-lived and well-mixed in the atmosphere. Given the global and complex nature of climate change, it is not currently possible to link projected GHG emissions associated with any particular activity at the land use planning scale. The uncertainty in applying results from Global Climate Models to the regional or local-scale (a process known as downscaling) limits the BLM's ability to quantify potential future impacts from GHG emissions at the land use planning scale.

Activities, programs, and projects initiated by BLM, as well as activities and projects the BLM authorizes, have both the potential to affect and/or to be vulnerable to effects of climate change. Each of these (i.e., both the potential to affect and/or to be vulnerable to effects of climate change) has its own sets of assumptions and potential control/mitigation options.

In 2010, total GHG emissions for the State of Idaho were 28.14 Mt CO_2 eq, which represents about 0.4 percent of total United States emissions and 0.06 percent of global emissions (WRI 2013). The GHG emissions associated with the Proposed Plan represent an even smaller fraction. These impacts are likely negligible or imperceptible due to the global scale of climate change and GHG emissions.

For GHG emissions, the Proposed Plan and Alternatives A, C and D have the same emissions for carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and carbon dioxide equivalent (CO_2 eq). These emissions are about 11 percent higher than Alternative B, due primarily to livestock grazing emissions. Table P-3 of Appendix P shows that Alternative B would contribute the least to GHG impacts and has the lowest emissions for all GHGs as this alternative has the lowest amount of livestock grazing emissions (about 29 percent of the amount compared to the other Alternatives).

4.11 Visual Resources

Visual impacts would be analyzed for project-specific actions, on a case-by-case basis. The Visual Resource Management (VRM) class designations and associated objectives for the classes (as described in Chapter 3) would be maintained in the Proposed Plan. As part of the VRM analysis stage and as part of any future project proposal, the visual resources contrast rating process would be completed. The analysis could then be used as a guide for resolving impacts on visual resources from proposed projects. Once every attempt is made to reduce visual impacts, BLM managers could decide whether to accept or deny project proposals. BLM managers would also have the option to attach additional stipulations in order to bring the proposal into compliance with VRM class objectives. The Proposed Plan would emphasize scenic quality protection on 188,170 acres (25 percent of the PA) designated as VRM Class I and II; and 594,990 acres (75 percent of the PA) designated as VRM Class III and IV.

4.12 Forestry and Woodland Management

The analysis area is comprised of 50,830 conifer forest acres of public land and 47,153 acres of woodland (i.e., aspen and mountain shrub) forest. This analysis is focused on the conifer forest. Since the woodlands are not managed as a commercial product, impacts to woodlands are described under the Vegetation Resources and Wildfire Ecology/Fuels Management sections.

The primary analysis indicators for the conifer forest are the timber harvest acres and harvest volume, as measured in million board feet (MMBF). Analysis also focused on the following management activities as most likely to affect timber harvest acres and volume: riparian and stream buffer zone restrictions, sensitive plant or wildlife species, VRM class designations, and land tenure adjustments.

Discussion of Impacts

All alternatives follow the Inland Native Fish Strategy Environmental Assessment (USFS 1995). The Proposed Plan allows for modification of the default buffer criteria when a site-specific analysis or watershed analysis determines such modification would be advantageous to achieving properly functioning condition of the riparian area.

Restrictions for sensitive wildlife species are generally seasonal restrictions that do not affect harvest volume or acres. Few sensitive plant species occur in the forested BLM areas, so there would be no appreciable effect on harvest volume or acres.

Management actions regarding scenic quality (i.e., VRM class) would affect timber harvest activities by limiting logging, thinning, or prescribed burning activities. VRM Class III and IV areas are not anticipated to limit logging activities. Only VRM Class I or II areas have the potential to affect timber harvest volume or acres. As compared to no visual requirement, Class II would likely require leaving approximately 20 percent more trees to reduce the visual effects of thinning and/or road construction.

Purchase, sale, or trade of forested land could have proportional effects on harvest volume and acres. Although not likely, if all forest land proposed for disposal in each alternative was indeed disposed over the life of this RMP, harvest volume and acres would be reduced.

The Proposed Plan limits clear-cut size to 80 acres. It also allows for clear-cuts in the case of pervasive widespread disease (dwarf mistletoe), insect infestation (bark beetle or defoliators), or fire-related mortality. The size of such clear-cuts would be defined by site-specific NEPA analysis. Given the rarity of clear-cuts in the PA and the predictability of disease, insect infestation, and fire related tree mortality, the effect on annual harvest acres and volume between the Proposed Plan and the alternatives is inconsequential.

4.13 Livestock Grazing

The analysis area used to determine the impacts on livestock grazing is comprised of all lands within grazing allotments in the PA. In addition to BLM-managed land, grazing allotments often include parcels of private, state, or other public land (e.g., Bureau of Reclamation). Primary analysis indicators for livestock grazing are change in BLM acres available for livestock grazing and associated animal unit months (AUMs), the number of planned rangeland restoration projects requiring temporary rest from livestock grazing, and livestock grazing restrictions (e.g., sheep to cattle conversion). Direct impacts on livestock grazing result from management actions that change AUM allocations or affect the ability to graze livestock on public lands (Table 4.13.1). Indirect impacts on livestock grazing result from management actions that affect rangeland health and productivity.

Table 4.13.1 - Acres and AUMs available for livestock grazing by Alternative

Indicators	Proposed Plan	Alternative A	Alternative B	Alternative C	Alternative D
Available Acres*	783,160	783,160	660,860	783,160	783,160
Cattle AUMs	103,740	103,740	93,444	103,740	103,740
Sheep AUMs	2,381	2,381	2,000	2,381	2,381
Horse AUMs	47	47	40	47	47
Total Available AUMs**	**106,168[1]**	**106,168**	**95,484**	**106,168**	**106,168**

*Available acres includes BLM parcels within allocated grazing allotments, vacant allotments (i.e. available for grazing but no active grazing authorizations currently exist), as well as parcels that currently fall outside grazing allotment boundaries.
**Total available AUMs includes allotments with active grazing authorizations as well as vacant allotments.

[1] MA-LG-06 allows for an additional 9,635 AUMs that would be available on the permit to be activated in pastures dominated by invasive annual grasses (Map 3-1) as a tool to maintain or improve ecological health and manage for a longer fire return interval (see MA-WFF-05).

Under the Proposed Plan, up to an additional 9,635 AUMs would be available on pastures dominated or with substantial invasive annual grasses on 19,270 acres of BLM-administered lands within the PA, as depicted in Map 3-1. As these AUMs would only be implemented for the purposes of maintaining and/or improving ecological health of perennial species in fire prone areas, they would potentially benefit livestock grazing by reducing the potential for wildfire which typically results in deferral of livestock use.

Discussion of Impacts

Indirect long-term effects of implementing Rangeland Health Standards could occur through improved rangeland health over time and associated increases in desirable perennial forage. Indirect long-term effects of not implementing Rangeland Health Standards could occur through degradation of rangeland health over time and associated decreases in desirable perennial forage.

Changes in animal numbers as a result of lands available for livestock grazing could increase or decrease the effects to sensitive resources (e.g., stream bank hoof shearing) as well as wear and tear on rangeland infrastructure (e.g., fencing, water developments). Impacts to other resources based on changes in animal numbers are reflected in each of the resource programs.

Deferring livestock use for a period after a wildfire or vegetation treatment would likely have a short-term effect on livestock operations in the area because livestock use would need to be adjusted. Livestock would use unburned/untreated areas within or outside of an allotment during the recovery period or there could be a temporary reduction in grazing use. Restoration and fuels management could, over the long term, improve rangeland productivity within successfully treated areas and could improve future forage quality and/or availability for livestock use.

Conflicts may arise where wildlife and livestock directly compete for available forage. Big game species, such as elk and deer, compete for similar forage as cattle, sheep, and horses. During certain times of the year, competition can be more pronounced.

The Proposed Plan would close less than one percent of the PA to livestock grazing. Localized changes in livestock grazing would be implemented to meet Rangeland Health Standards and resolve conflicts with other public land uses.

Reserve Common Allotments (RCA) may be created on vacant allotments, as new public lands are acquired, as grazing permits are cancelled, or if an agreement is reached with an existing permittee. Such would afford the BLM additional flexibility in grazing management following active or passive vegetation treatments by making additional pasture land available for those affected permittees.

Active and passive restoration, as well as wildfire rehabilitation techniques, would improve and/or restore vegetation. As these actions occur, rest from livestock grazing may occur in treatment areas depending on the objectives of the treatments. Such would be coordinated with the permittee as appropriate.

The Proposed Plan emphasizes restoration to support maintenance and recovery of vegetation for wildlife habitat, timber production, forest fire prevention, and forage for livestock grazing. Restoration could require longer periods of rest from livestock grazing in specific areas. The gradual return of livestock grazing to areas being passively restored could have a greater operational and financial impact to livestock grazing permittees compared to areas being actively restored. Additional impacts on livestock operations could occur when a rest period is implemented following rehabilitation before grazing is reestablished. As rangeland conditions improve as the result of these actions, the number of available AUMs may increase.

Livestock grazing could be affected by adjustments or modifications to current livestock management to achieve stream channel, riparian, and water quality Standards for Rangeland Health. Although over the short term, livestock would be excluded from improved or restored streams and springs, over the long term, livestock would benefit from improved forage and water quality within restored areas. Water could be provided to livestock in troughs, pits, or reservoirs away from riparian areas to mitigate this impact.

The requirement of a spatial separation between bighorn sheep and domestic sheep would directly affect a small proportion of grazing permittees through change in kind of livestock from domestic sheep to cattle and/or horses. Livestock conversion requests are considered on a case-by-case basis. Domestic sheep grazing in bighorn sheep habitat could continue to occur as long as best management practices (see Appendix C and N) are followed to reduce potential contact between domestic and bighorn sheep or there is no net effect in impacts to resources from a livestock kind conversion.

Bighorn sheep observations in domestic sheep allotments would immediately trigger a risk assessment for disease transmission to the bighorn sheep herd.

An Environmental Analysis was completed by the FRFO in 2013 for several grazing allotments that overlap potential Rocky Mountain bighorn sheep near Hells Canyon. The analysis evaluated the risk of contact between bighorn sheep herds and a group of domestic sheep grazing allotments, the analysis is provided in Appendix M. Similar analyses would be conducted during the permit renewal process for other domestic sheep grazing allotments that overlap bighorn sheep habitat.

Seasonal restrictions would impact those permittees who graze in allotments where special status plant species habitat exists. These permittees would have to either find alternative pasture lands for the spring, summer, and/or fall seasons, build and maintain additional fence, or sustain a decrease in available acres for grazing and associated AUMs.

Livestock concentrating activities (e.g., salting/supplements and water developments) would be located at least 0.5-miles from slickspot peppergrass EOs. These restrictions would not impact livestock grazing to a large degree as water developments and salt/mineral blocks would still be available for livestock in other locations, and current grazing levels would still be supported.

Less than one percent of public lands within the PA would be open to cross-country OHV travel in all the Proposed Plan. Adverse impacts on livestock grazing in these limited areas would include harassment, displacement, and potential injury or fatality of livestock by OHV users. Indirect adverse impacts on livestock include the loss of available forage from vehicles crushing and destroying vegetation and from dust deposition on the forage, making it less palatable to livestock.

Adverse impacts on livestock grazing from surface-disturbing activities associated with mineral development would not occur within excluded areas or areas where no surface occupancy is allowed. Since the potential for fluid mineral leasing (oil, gas, and geothermal) development is restricted to finite areas within the PA, the potential for impacts to grazing from these mineral extraction industries would be limited. In addition to the loss of forage through surface disturbance, increased traffic would result in fugitive dust. Fugitive dust from vehicle use settles on forage adjacent to existing roads, making it unpalatable for consumption until removed by either wind or precipitation. This would reduce the available forage for livestock, wildlife, and wild horses in areas where vehicle traffic is frequent, and increase competition for remaining forage. While BMPs would be implemented to reduce the potential for fugitive dust, some would continue to occur. Similar types of impacts would occur from locatable and salable mineral extraction and issuance of rights-of-ways. However, these activities would be more dispersed across the PA.

4.14 Recreation Management

The analysis area for recreation is the public land within the PA. There are exceptional opportunities for OHV vehicle exploration, riding, and racing on BLM-managed lands in the PA less than an hour's drive from the Boise metropolitan area. While management actions apply only to public lands, many areas providing recreational opportunities are a combination of various public and private land ownerships.

Indicators used to analyze recreation impacts include: acres of focused recreation management (SRMAs, ERMAs, and BCAs); acres available for targeted activities, experiences, and benefits; changes in recreation settings characteristic (i.e., physical, social, and operational); and management actions. Table 4.14.1 describes the acres within the PA managed as SRMA, ERMA, and BCA. Changes to recreation opportunities and settings are described qualitatively in the following section.

Discussion of Impacts

The recreation demands on the Boise Front SRMA, in close proximity to rapid urban development will be a challenge to maintain the recreation setting characteristics (RSC). An increase in rules and regulation will be necessary at some point in the future, which would change the operational setting. Land tenure adjustments (i.e., land acquisitions or disposals) that would provide legal access for previously inaccessible public land for recreational use, or connect disjointed, public blocks to provide continuity would increase both the type and number of opportunities. Issuance of ROWs might increase both the type and number of motorized access in previously inaccessible areas. Increases for public access and connectivity would be focused on the Boise Front SRMA and Bennett Hills BCA. Coordinating management of byways and trails that have been designated by the State of Idaho, the National Byways program, and the National Recreation Trails program would enhance the recreational experience for users of these trails and byways by ensuring consistent management along these trails. Maintaining the primitive RSCs of the two existing Wilderness Study Areas (WSAs), Box Creek and King Hill Creek, would continue to provide opportunities for solitude and unconfined, primitive recreation. Special recreation permit applications for competitive, commercial, and organized group use would likely increase under the Proposed Plan. Due to the land management pattern of scattered parcels of BLM managed land across a large PA boundary, Special Recreation Permits (SRPs) would be considered on a case-by-case basis in cooperation with other land management agencies and private landowners. The WSR inclusion recommendations for the Payette River would not alter current recreation available along the Payette River section within the SRMA.

Under the Proposed Plan, the 85,930-acre Bennett Hills BCA would be managed for primitive recreation in support of hunters and anglers and would promote high quality wildlife-dependent recreation activities. Management actions in the BCA would largely support this objective. For example, activities associated with LUAs and mineral extraction would conform to VRM Class II objectives within the Bennett Hills BCA. Motorized vehicle use would be limited to existing routes only until a travel management plan is completed, with the exception that game retrieval could occur beyond existing or designated routes. Renewable energy projects would not be allowed within the BCA. Recreation setting characteristics (remoteness, naturalness, contacts, group size, evidence of use, access, visitor services and management controls) for the Bennett Hills BCA will be managed as back country and the recreation setting characteristic of facilities would be managed as primitive in support of hunting, camping, and wildlife viewing as described by the BLM Planning for Recreation and Visitor Services Handbook (BLM 2014). Designation would further highlight the specific wildlife-focused recreational opportunities for hunting, camping, and wildlife viewing in this area, and ensure retention of this area for future recreational opportunities.

Increases for public access and connectivity would be focused in the Boise Front/Foothills and Bennett Hills BCA. The designation of Oxbow/Brownlee ERMA would allow for a variety of resource uses commensurate with offering a variety of water and upland recreation opportunities in a relatively unchanged scenic setting. The Proposed Plan would also designate a 560-acre rock crawling area. This would increase both the type and number of opportunities available for this recreational use in the PA.

Recreational opportunities throughout the PA would not be adversely impacted by land tenure adjustments as tracts identified as available for disposal have been evaluated for proximity to and access from other public lands. Over the life of the plan, any parcel nominated for disposal would be thoroughly reviewed to ensure conformance and compliance with Secretarial Order 3373- *Evaluating Public Access in Bureau of Land Management Public Land Disposals and Exchanges*.

Table 4.14.1 – Proposed Plan Recreation Designations

Area	Proposed Plan (acres)
Extensive Recreation Management Area	
Cascade	-
Treasure Valley	-
Oxbow/Brownlee	36,820
Bennett Hills	-
Total	**36,820**
Special Recreation Management Area	
Bennett Hills Winter	-
Boise Front/Foothills	25,260
Oregon Trail	-
Oxbow-Brownlee	-
Payette River N&S	1,610
Total	**26,870**
Backcountry Conservation Area	
Bennett Hills	85,930
Total	**85,930**

4.15 Transportation and Travel Management

Under the Proposed Plan, existing seasonal road closures or restrictions to protect important wildlife winter range would continue. Road density would potentially increase on the 530 additional acres open to OHV travel as compared with existing management. Future travel management planning conducted for each TMA will complete site-specific analyses. Effects of the Proposed Plan are described in the Draft RMP/Draft EIS pg. 120.

4.16 Lands and Realty Management

This section presents anticipated direct and indirect impacts to the Lands and Realty program from other resource program activities. Impacts affecting the Lands and Realty program result from management actions that increase, decrease, or prevent the potential for Realty actions. Land tenure adjustments and land use authorizations are affected by management actions that reduce the availability of lands for these purposes.

Discussion of Impacts

Land Tenure

Land disposal (through exchange, sale, or transfer) would allow resources to be concentrated for management of higher value lands. Land exchanges would be used to consolidate ownership and obtain a net gain in resource values.

The elimination of opportunities for agricultural entry would remove approximately 40 acres from Desert Land Act consideration.

Approximately 58 parcels would be available for disposal under section 203 of FLPMA. Disposals would continue to prioritize consolidating public lands and acquiring higher resource or recreational value lands. The Proposed Plan provides greater flexibility to maximize land tenure adjustment by consolidating management to promote recreational use of public lands.

Land Use Authorizations

Besides excluding some lands from land use authorizations (LUA), management direction for the

Proposed Plan would require ROW developers to reduce or eliminate impacts on other resources and resource uses. These measures could increase costs and reduce the profitability of operations. In many cases, these would be considered typical costs of doing business on public lands. However, any increase in cost would potentially impact development. Higher costs may reduce the overall number of LUAs. In some cases, increased costs could cause a particular proposal to not be economically feasible and proposals may be dropped.

Management direction that would result in delays, increase risk, and increase costs to LUA proposals includes applying BMPs (e.g., weed control, soil erosion, and loss), meeting visual resource objectives, setting reclamation standards, applying operational standards and guidelines, reducing soil loss and stream sedimentation, avoiding or salvaging cultural sites, precluding activities, applying timing or season-of-use restrictions, salvaging and protecting certain paleontological resources, and identifying special management areas.

The window for constructing LUAs could be quite short in some areas due to a combination of multiple timing wildlife restrictions and heavy snows/intense winters sometimes experienced in southwestern Idaho. These restrictions applied to activities may result in construction of LUAs being extended to two or more years. This could extend the length of time required to evaluate feasibility and prepare a development proposal.

Timing restrictions could render some LUA proposals impractical. Although construction activities would typically have to meet timing restrictions, the restrictions would not apply to the operation and maintenance of facilities unless the findings of future project-level NEPA analyses demonstrate the continued need for such mitigation and that less-stringent, project-specific mitigation measures would be insufficient. This should allow application of mitigation measures that adequately protect wildlife resources and also allow for practical development of minerals and energy resources on public lands.

Long-term (20 years) impacts from resource management actions are anticipated to be a reduction of use and development in avoidance and exclusion areas.

The feasibility of wind and solar development proposals will be left to project proponents, with the exception that they would not be allowed in exclusion areas. This allows for a more flexible approach to account for technological advances.

Anticipated short-term (5 years) impacts from resource management actions include an increase in applications for LUAs in Payette County based on potential oil and gas development in the region.

Restrictions associated with WSAs would preclude issuance of LUAs on 23,270 acres (3 percent) of public lands. Reductions in restrictions compared to existing management would result in fewer difficulties with accommodating LUA requests throughout the PA. Additionally, there would be a lower potential for increased surface disturbance from reroutes around exclusion areas and reductions in the amount of time taken to process applications.

Renewable energy exclusion areas of 180,280 acres for solar energy and 297,050 acres for wind energy would restrict potential development on public lands, but not to the degree seen in Alternative B (FRFO Draft RMP/Draft EIS pg. 122). Alternative C offers more opportunities for siting transportation and energy facilities in the PA and would potentially increase the number of LUAs associated with development and transportation of energy resources as compared to Alternative B (FRFO Draft RMP/Draft EIS pg. 123).

Withdrawals

Revocation or modification of existing withdrawals could make affected lands available for land tenure adjustments or open the lands to land use authorization consideration. No new withdrawals are proposed in the Proposed RMP.

4.17 Minerals Management

Management direction would require mineral exploration and development operators to apply best management practices to reduce impacts on other resources and resource uses. These measures could increase costs and reduce the profitability of operations. In many cases, these would be considered typical costs of doing business on public lands. However, any increase in cost would potentially impact mineral development. Higher costs may increase the sales price that operators charge purchasers, may limit mineral development to only the more profitable portions of a mineral deposit, or may reduce the overall amount of exploration and development. In some cases, increased costs could cause a particular proposal to be economically infeasible and development actions may be dropped.

Management direction that would potentially result in delays, increased risk, and increased costs to mineral development includes applying BMPs (e.g., weed control, soil erosion, and loss), meeting visual resource objectives, setting reclamation standards, applying operational standards and guidelines, reducing soil loss and stream sedimentation, avoiding or salvaging cultural sites, designating no surface occupancy (NSO) for fluid mineral leasing activities, applying timing limitation stipulations (TLS) or season-of-use restrictions, salvaging and protecting certain paleontological resources, and identifying special management areas.

The window for conducting mineral exploration could be quite short as described in section 4.16, LUAs, and may make exploration and development less feasible. While there are multiple timing restrictions related to activities in wildlife habitat, there are no areas within the PA where multiple timing restrictions from wildlife would preclude any exploration drilling activities.

Although public lands are available for location and operation of mining claims and mineral material disposal (salable), this does not mean that all these areas would be permitted or claimed, or that the lands would be impacted by surface-disturbing activities. Mineral exploration and development within the PA is relatively limited. Development would only occur in those extremely rare and unique instances where economic deposits of mineral resources are found to exist or a specific need, such as a gravel pit, is required.

All lands within the planning area would be available for locatable mineral extraction as no lands would be recommended for withdrawal from operation of the public land laws, including locatable mineral entry.

While 63,180 acres would not be available for new mineral material disposal sites, 92 percent of the PA would remain available for mineral extraction. This is approximately 18,130 additional acres closed as compared to Alternative A (FRFO Draft RMP/Draft EIS pg. 124). As the demand for mineral material disposals within the PA is focused primarily on low unit value materials, the reduction in available acres for mineral material disposals would not be significantly different than Alternative A.

Geothermal leasing would be restricted through 21,330 acres of closure in moderate to high potential areas. Additionally, NSO stipulations on 83,810 acres of high and moderate to high geothermal potential lands would slightly reduce flexibility for geothermal development as when compared with to Alternative C, but would provide greater flexibility than Alternatives A and B (FRFO Draft RMP/Draft EIS pg. 124-123).

Oil and gas development under this alternative would, again, not see any high or medium potential lands closed to leasing, and limited areas subject to NSO restrictions (60 acres of medium potential). All lands within high and medium potential would be available for leasing. These stipulations would provide the most flexibility for locating oil and gas facilities in high and moderate potential of any alternative and the highest rate of development compared with Alternatives A and B (FRFO Draft RMP/Draft EIS pg. 123).

4.18 Hazardous Materials and Public Safety

Impacts related to hazardous materials and public safety would generally be localized in nature; as such, the area of analysis is defined as the PA. The opportunity for public access to BLM managed lands serves as the primary indicator for potential impact caused by construction-related hazardous material and/or petroleum spills and incidents of indiscriminate dumping.

Increases in human presence and activity associated with recreation, mineral activity, and ROW development increase risks associated with generation, use, transportation, and disposal of hazardous substances. Public safety risks can occur from natural hazards, such as floods, debris flows, wildfire, and earthquakes, or from man-caused conditions, such as toxic spills or abandoned mine sites. Whatever the origin, when such conditions arise, BLM is prepared to take appropriate action, assist in evacuation and rescue, coordinate with appropriate authorities, keep facilities and equipment functioning, and plan for recovery.

Discussion of Impacts

Increases in human presence and activities involving the operation of vehicles and heavy equipment for vegetation restoration, hazardous fuels management, mineral extraction, recreation, transportation, and ROW use provide opportunities for the presence of hazardous materials in the PA. Management of wildfires can also introduce hazardous materials into localized areas through firefighting treatments.

Minerals-related activities are the most likely activities to increase the risk of hazardous substances to health and safety.

Impacts to health and safety from the management of hazardous substances would be the same under all alternatives, as there are no separate management actions by alternative.

Since project-specific activities would require implementing BMPs to avoid accidental spills, leaks, or dumping of hazardous substances, the potential for incidents involving hazardous materials due to restoration activities is low for all alternatives. Adverse impacts involving hazardous materials or public safety issues related to construction activities would be short-term and localized.

Access to BLM-managed land provides opportunity for potential illegal dumping by the public. Educational programs and adequate signage at trail heads and developed recreation areas could help minimize the occurrence of improper storage and disposal methods of hazardous materials. Effects of the Proposed Plan are similar to those described for Alternative D in the Draft RMP/Draft EIS pg. 126.

4.19 Special Designations

Areas with special or unique values that might otherwise be lost or irreparably damaged would be managed through special designations. This analysis includes Areas of Critical Environmental Concern (ACECs), National Historic Trails (NHTs), Wild and Scenic Rivers (WSRs), Wilderness Study Areas (WSAs), and lands with wilderness characteristics (LWCs). The area of analysis for special designations is the PA as management actions affecting them would not occur outside this area. Direct and indirect impacts could result from a variety of natural and human-caused actions,

such as those that alter, damage, destroy, or enhance some aspect of an area's special or unique values. Adverse impacts impair the resource values of a specially designated area, while beneficial impacts maintain or enhance those values. To the extent that resources occur within special designations, those values would be managed for maintenance and enhancement based on restrictions to resource-impacting activities. Table 4.19.1 describes the acres of management use restrictions within the various special designation areas.

Recreation, LUA, mineral, and livestock grazing management actions would provide moderate protection for identified resource values in the different special designations.

Table 4.19.1 – Proposed Plan Acres of Special Designations and Acres of Restrictions

Acres	Proposed Plan
Acres of ACECs	60,550
Acres of WSAs	23,270
Acres of NHT Protective Zone	24,910
Acres of WSRs	6,640
Acres of LWCs	-
Acres of RNAs	-
Percent of PA in Special Designations	15%
Restrictions Within Special Designations	
ROW Exclusion acres	23,270
ROW Avoidance acres	72,090
Leasable Closed/NSO acres	66,690
Salable Closed acres	63,140

Special Designations - Applying special designations to 115,370 acres of public lands would help ensure relevant and important values are maintained or enhanced in three ACECs; recreational, scenic, and wildlife habitat values are maintained on six suitable or eligible WSR segments; and naturalness and solitude are retained in two WSAs. Designating Oregon NHT Protective Zones and Oregon NHT Management Corridors around contributing segments would help maintain and enhance the historical setting of the trails and their surroundings.

Recreation Management - Vegetation recovery on closed routes would improve naturalness values of WSAs. Considering scenic and recreational values when designating routes in WSR corridors, Oregon NHT Protective Zones, and Oregon NHT Management Corridors would help maintain recreational, scenic, wildlife habitat, and historical values.

LUA and Mineral Management - Generally, impacts to WSAs and ACECs would be the same as those described for Alternative C as management of these areas would be the same, although the protections would occur over a slightly larger area owing to the expansion of the Hixon Columbia Sharp-tailed Grouse Habitat ACEC. Management of the Oregon NHT Protective Zones and Management Corridors would be the same as Alternative C but would be expanded to include a larger buffer around contributing segments, ensuring preservation of the historic setting.

Livestock Grazing Management - Grazing and trampling impacts would not occur on portions of WSAs that are closed to livestock grazing. Livestock grazing and trampling impacts would occur in all special designation areas. Limiting utilization could help maintain native perennial species, especially where areas are not consistently grazed during the growing period. Heavier use as applied for vegetation management in annual-dominated areas could cause surface disturbance of historical resources associated with the Oregon NHT. Using supplements to improve livestock distribution

could decrease grazing and trampling impacts.

4.20 Socioeconomics

This section presents qualitative and quantitative analysis of the effects of Proposed Plan and Alternatives A through D on the conditions of the socioeconomic analysis area (the entire area of all counties that occur partially or wholly within the PA). The value of non-market and market goods and services in the socioeconomic analysis area under each of the alternatives will be evaluated.

The total impact of an economic change consists of direct, indirect, and induced impacts. Direct impacts are those that occur due to the direct interaction of an activity and the economy, such as costs of constructing or operating a power generation facility. Indirect impacts are those that are not a direct result of an action, often separated in time and space from the direct impact. For example, construction of a power generation facility would require the purchasing of materials, which could increase economic output of and employment in industries that provide these materials. Induced impacts refer to changes in household spending due to the additional employment generated by direct and indirect effects.

The following steps were used in this analysis:

1. The direct impacts of management actions on the socioeconomic conditions of the analysis area were assessed. For example, impacts associated with closure of grazing allotments would be reported as decreased economic output, labor income, and number of jobs due to a loss of grazing AUMs. Impacts from a ROW approval for a wind farm might be reported as a one-time increase in local spending during construction and a long-term increase in jobs and local spending from project operation. All impacts from actions are measured relative to activity levels in Alternative A. Impacts of management actions were measured and reported in dollars where possible.
2. The indirect and induced impacts of a management action were assessed using an input-output model called Impact Analysis for Planning (IMPLAN) Pro Software and Data (IMPLAN Group 2016) that mimics the economic links between different sectors of the counties' economies. The model generates estimates of the indirect and induced management impacts, called multiplier effects, based on the direct, regional economic impacts identified during Step 1. The total impacts of a management change are reported in this document and are a summation of the direct impacts and the indirect and induced effects as produced by IMPLAN. All IMPLAN analysis was based on 2014 data.

If the impacts from a management change could not be monetized, impacts were measured in other terms or described qualitatively by the manner, direction, and relative magnitude of the change.

Qualitative analysis was used for social changes which are often hard to quantify without social survey research.

For this analysis, all action alternatives are compared to Alternative A (FRFO Draft RMP/Draft EIS pg. 131-139) (continuation of current management), which is considered a description of the baseline condition.

Discussion of Impacts

Vegetative Restoration, Fish and Wildlife, Water Quality, and Special Status Species Management Activities

Impacts to Market Goods and Services

There would be 145,000 acres targeted for vegetative treatments, but they would be expected to be constrained more by budget than management goals. Land treatments and restrictions for vegetation,

water quality, forest management, and rangeland communities would not be expected to adversely impact the AUMs available for grazing allotments.

Impacts to Non-market Ecosystem Goods and Services

Land use restrictions and vegetation or habitat treatments would protect or enhance the ability of PA to provide ecosystem services such as water filtration, groundwater recharge, support of biodiversity, pollination, and erosion and flood control.

Wildfire Ecology and Fuels Management Activities

Impacts to Market Goods and Services

Impacts due to wildfire management activities would be the same as Alternative A (FRFO Draft RMP/Draft EIS, Section 4.20, pg. 131-132. Livestock would be restocked in a phased manner, which could add to the short-term, adverse grazing impacts. Fuels reduction and management projects would create additional, positive short-term economic impacts during treatments. Established fuel breaks would create long-term positive economic impacts from avoided fire suppression costs and avoided short-term grazing and recreation losses.

Impacts to Non-market Ecosystem Goods and Services

Conducting active fuels management in the fuels management and protection zones within the Boise River and Bennett Hills MAs would increase the benefits of protection and restoration of ecosystems goods and services in these areas beyond what would occur under Alternative A.

Livestock Grazing Management Activities

Estimating the economic impact of livestock grazing[1] on the socioeconomic analysis area using only AUMs costs may underestimate the actual importance of this resource. A previous study in Elko County, Nevada estimated that the value of one public land AUM at the ranch level is characterized by diminishing marginal productivity (Alevy et al. 2007). In some cases, the entire ranch operation may depend on some minimum level of federal AUM grazing permits being available. In this case, the value of these minimum levels of AUMs will be more than the average values given below. Conversely, because of diminishing returns, additional availability of AUM grazing may be considerably less than average when the availability of the grazing is already at higher levels.

Impacts to Market Goods and Services

The FRFO provides a total net permitted use (less suspended ones) of 106,168 cattle AUMs. The value of one AUM of livestock production in southwestern Idaho was estimated at $97.86 per AUM by the BLM in 2015 (number converted to 2017 dollars for consistency with this document) (BLM 2015d).

Table 4.20.1 - Employment, Labor Income, and Value of Output Impacts of 106, 168 Cattle AUMs of Federal Grazing in the Socioeconomic Analysis Area for the Proposed Plan

Impact Type	Employment (Number of Jobs)	Labor Income	Output
Direct Effect	67	$1,718,753	$10,389,600
Indirect Effect	50	$1,988,199	$6,765,067
Induced Effect	24	$1,008,927	$3,101,408
TOTAL Effect	**140**	**$4,715,879**	**$20,256,076**

[1] Analysis of livestock grazing impacts on socioeconomics only analyzes cattle AUMs as they are the primary livestock kind in the PA.

Source: IMPLAN Group 2016 Notes:
1. Analysis for cattle, sheep, and horses was analyzed.
2. Employment includes full- and part-time jobs.
3. Multipliers associated with IMPLAN Sector 11: Livestock ranching and farming, including feedlots and dual-purpose ranching and farming.

The proportion of indirect and induced effects reported for the ranching and farming industry in the socioeconomic analysis area (IMPLAN Group 2016) was used to calculate total economic effects of permitted livestock grazing based on BLM-calculated value of production per AUM. The baseline economic impact of all 106,168 cattle AUMs currently estimated to be available in the socioeconomic analysis area using the estimate of $97.86 per cattle AUM is presented in Table 4.20.1. A total of 140 jobs, $4,715,879 in labor income, and $20,256,076 in total economic activity are impacted by the 106,168 federal cattle AUM grazing in the FRFO PA. While these numbers are very small relative to the total economy of the socioeconomic analysis area, grazing impacts are more important in some of the smaller rural economies where much of the economic activity from grazing occurs.

Impacts to Non-market Ecosystem Goods and Services

Improper livestock grazing can result in ecosystem impairments such as soil disturbance, crushing and destroying of plants, increased invasion of noxious weeds and other undesirable species, and soil compaction. Inversely, restrictions to timing and extents of livestock grazing can result in the cessation or reduction of grazing-related negative impacts to ecosystem goods and services. Under this alternative, nearly all of existing grazing allotments would continue to be open to livestock grazing. This would result in continuation of current trends of livestock grazing-related impacts to ecosystem goods and services.

Mineral Resources Management Activities

Impacts to Market Goods and Services

The closed and NSO restrictions of up to 20 acres (<1 percent) of high and medium oil and gas potential reduce the probability that directional drilling may be required for natural gas production or that the number of wells drilled into federal minerals would be reduced compared to Alternatives A and B. Based on existing spacing requirements and the amount of federal minerals subject to NSO, it is anticipated that, under this alternative, the total number of wells drilled into federal minerals would be 22. The amount of product from the wells would be increased accordingly and the annual number of jobs associated with exploration and development would average 221, an increase of 207 jobs annually.

The NSO restriction and closure areas (30 percent of high and moderate to high geothermal potential acres) reduce the difficulty in siting 20-MW and 50-MW geothermal plants; however, the probability is that they could still occur. Seasonal restriction constraints could increase the construction costs of large geothermal plants by lengthening the total construction period beyond a single year.

In terms of locatable minerals, mines in the PA are currently producing gold, jasper, and geodes with some exploration activity. Exploration of a copper and molybdenum ore body is being proposed in Boise County, but would not be on BLM land. Notices for mechanized exploration and plans for development of locatable minerals are handled on a case-by-case basis within existing activity constraints and would continue to be handled in this manner under all alternatives.

Table 4.20.2 - Annual Economic Impacts of Salable Mineral Production

	Employment (Number of Jobs)	Labor Income (2017 Dollars)	Output (2017 Dollars)
Direct Effects	10	$132,903	$2,060,292
Indirect Effects	5	$260,678	$809,515

Induced Effects	3	$113,501	$358,065
TOTAL Effects	**18**	**$507,083**	**$3,227,872**

Source: IMPLAN Group 2016 Notes:
1. All totals were calculated using unrounded original numbers.
2. Employment includes full and part-time jobs.
3. Multipliers for salable mineral production were derived from the industries *stone mining and quarrying*; *sand and gravel mining*; *other clay, ceramic, refractory minerals mining*; *other chemical and fertilizer mining*; and *other nonmetallic minerals mining* as reported by IMPLAN. Direct, indirect, and induced effects were calculated separately for these industries and summed to provide totals for all salable minerals in the socioeconomic analysis area.
4. Values indexed to 2017 dollars with the US Inflation Calculator (http://www.usinflationcalculator.com/).

Salable minerals are taken from lands via community pits, negotiated sales, and free use permits to state and local governments and the general public. Within the socioeconomic analysis area, total value of output of stone mining and quarrying in addition to sand and gravel mining on BLM lands was estimated at $3,227,872 annually (2017 dollars) (IMPLAN Group 2016). It is possible haul distances might be increased in some cases, but increases in cost would be expected to be negligible to minor. The economic impacts of current levels of salable minerals production are shown in Table 4.20.2. Salable mineral production in the socioeconomic analysis area provides 18 full or part-time jobs.

Impacts to Non-market Ecosystem Goods and Services

NSO restrictions under this alternative would reduce impacts to ecosystem goods and services due to mineral resource extraction. Restrictions to protect special status species or other resources would protect some ecosystems goods and services from disturbance due to mineral resource exploration and extraction. However, where these restrictions are not applied, the extraction of mineral resources can be highly disturbing to ecosystems and the ability of these areas to provide ecosystem services.

Recreation Management, Transportation, and Travel Management Activities

Impacts to Market Goods and Services

The net result of management actions on recreational activity is a decrease of 8,465 visitor days as compared to Alternative A. These lost visitor days have an estimated direct impact of spending of $265,000. Using the weighted-average values per visitor day, the 8,465 fewer visitor days would result in a reduction of economic output of $483,000, a reduction of six jobs, and a reduction in labor income of $181,000, compared to Alternative A. By 2045, the adverse impacts would result in a reduction of $957,000 in economic output, 12 jobs, and $357,000 in labor income as compared to Alternative A.

Impacts to Non-market Ecosystem Goods and Services

Recreation impacts to ecosystem goods and services under all alternatives are difficult to predict and will depend on site-specific management, user demand, and resource presence. It is assumed that the BLM will have appropriate means to respond to resource presence and user demand and will be able to mitigate or avoid impacts to ecosystem goods and services through site-specific recreation use planning.

Lands and Realty

Impacts to Market Goods and Services

Land tenure adjustments would continue to be evaluated on a case-by-case basis, but no data exists to allow change predictions in land use and locations of future transactions or the subsequent economic values. However, the net impacts of the actions could generally be predicted as larger than Alternative B and smaller than Alternative C, based on the level of restrictions for ROWs.

Impacts to Non-market Ecosystem Goods and Services

Any actions that impact land use have the potential to impact ecosystem goods and services. No data exists at this time to predict the locations or impacts of land tenure adjustments under any of the alternatives on ecosystems.

Renewable Energy Activities

Impacts to Market Goods and Services

This alternative would be similar to Alternative B by adding that no new ROWs would be granted within 0.25 miles of any Type 1 or 2 sensitive species. No economic impacts could be anticipated at this time for wind or solar development as there are no current proposals within the PA.

Impacts to Non-market Ecosystem Goods and Services

No impacts to ecosystem goods and services due to renewable energy activities are anticipated at this time as no development is currently planned under any alternative. If development occurs, ecosystem goods and services such as erosion control and biodiversity support might be expected to be impacted by these activities.

4.21 Cumulative Effects

4.21.1 Regional Influences

Population Growth

From April 1, 2010 to July 1, 2017, Idaho's population grew 9.5 percent. Just under 150,000 more people lived in Idaho in mid–2017 than seven years prior, increasing the total population in Idaho to 1,716,943. Since the 2000 Census, Idaho's population has increased by 32 percent (approximately 417,000 people). The population in the ten counties in the PA increased by 46 percent to 753,646 in 2017.

Land Tenure Adjustment Proposals

Interest in land acquisitions, disposals, and exchanges are expected to continue within the PA based on historic trends. The continued population growth will likely result in an increased interest for land tenure adjustment proposals. A common force behind such proposals is to consolidate holdings by private landowners, dispose of less valuable farming or development properties, and/or acquire land that is valuable for farming or development. There is also potential for third-party exchanges, where an interested group facilitates an exchange to gain land important for recreation or wildlife. During a land exchange, BLM targets acquisitions in areas that contain higher value resource values. As population growth and community expansions occurs, more private land also becomes developed and therefore would become less likely to be of value to the BLM. This would result in fewer options for lands to exchange as proposals are presented to the BLM by other entities. A minimal change in public land acres is expected over the life of the RMP, with a gain in manageability and resource values.

Recreation

It is anticipated that with population growth comes increased recreational use. An increased use of developed recreation sites and campgrounds is likely as population increases. Past outdoor recreation favorites indicate a strong preference for primitive, dispersed, undeveloped, and nature-based experiences over those that are developed, site-based, and provide a high level of services. It is expected that those types of recreation would continue to increase in demand along with the more traditional types, such as, hunting, fishing, hiking, horseback riding, pleasure driving, camping, and target shooting.

As the PA's population grows, it is expected that more private land adjacent to BLM land and currently open, agricultural, or ranch land would be converted to housing developments of varying

densities. This trend would place greater demand on public land to provide recreational opportunities for adjacent residents. This demand might be in conflict with other resource values (wildlife habitat) or resource uses (grazing, energy production).

Agency Undertakings

Bureau of Land Management

At this time, is undertaking two programmatic Environmental Impact Statement (EIS) processes for both development of fuel breaks and fuels reduction and restoration within the Great Basin Region. These programmatic, region-wide documents will streamline site-specific NEPA analysis of these activities in the Great Basin. A third EIS underway will establish a network of fuel breaks across the Tri-state area where Oregon, Idaho, and Nevada meet. These projects are in addition to ongoing projects in neighboring BLM field offices including grazing permit renewals, land exchanges, emergency stabilization and rehabilitation projects, Travel Management Plans, and a host of small land use authorization projects.

U.S. Forest Service

The Payette and Boise National Forests are currently developing three EISs for projects within or adjacent to the PA. The Stibnite Gold mine project is located within the northeastern reaches of the PA on USFS lands in Valley County; the Huckleberry Landscape Restoration Project is located in Adams County, and; the Boise and Sawtooth Forest-wide Invasive Plant Species Treatments are throughout the Boise and Sawtooth National Forests within Ada, Boise, Elmore, and Gem Counties. Additionally, the Payette National Forest is undertaking a Forest Plan Amendment for Wildlife Conservation Strategy in Adams, Valley, and Washington Counties, while the Boise National Forest is also amending Land Management Plans regarding sage-grouse conservation, which would include portions of Elmore County.

Energy and Infrastructure

Private Natural Gas Energy Exploration near New Plymouth

From 2009 to 2016, 17 wells were drilled on private lands north of Interstate 80, east of Payette, in two areas designated the Willow and Hamilton Fields. As of 2018, seven wells in the Willow Field were producing commercial quantities of natural gas and natural gas condensate. Installation of a pipeline system and other support facilities have facilitated additional interest in further developing the two gas fields. It is estimated that up to 108 wells may be drilled in the two fields near New Plymouth on non- BLM lands during the life of the plan (BLM 2016a).

Geothermal Development

Numerous geothermal development sites are in use within the boundaries of the PA (Idaho Governor's Office of Energy Resources 2019). It is expected that trends in geothermal development will continue on all land ownerships; the types and scale of these developments are subject to market factors, and thus difficult to predict with certainty. While the RFDS for geothermal development anticipates possible development of two facilities within the planning area on BLM lands, the potential exists for additional developments on private, state, or other federal lands.

Wind Energy Development

The PA's public lands contain a limited potential for wind energy development (NREL 2010). This development is limited by the scattered nature of public lands, access to transmission lines, and relatively small amounts of very high-quality winds (NREL 2010). It is anticipated that small companies would continue to be interested in smaller wind energy developments (< 100 megawatts). Although no wind facilities have been constructed on public land, there has been one developed on private land North of Hammett, ID.

Large wind farms are not anticipated in the near future, because companies are looking for large areas of the highest quality wind, which are not present on public land. They also seek areas near existing transmission lines with available capacity. Small wind farms on private lands may expand development interest onto the public land in the PA.

Solar Energy Development in the Planning Area

Solar radiation maps show that the PA has good quality radiation in the summer months, but poor quality in the winter months (NREL 2010). The average annual radiation values are considered below commercial grade because of the low winter values. It is not anticipated that there would be commercial solar development in the PA unless technology improves and investment potential increases. Solar technologies currently require large blocks of very flat land, and given these requirements, it would be difficult to find a suitable location in the PA. Most of these large areas were patented to private individuals over the last 100 years. It is anticipated that additional, small solar facilities could be built on private land, and potentially expand onto adjacent public land. This development would most likely occur in the southern portion of the PA, due to availability of flat land, transmission lines, and proximity to population centers.

Livestock Grazing

Demand for livestock grazing leases is expected to remain relatively stable over the life of the plan. However, degradation of rangeland health and livestock forage results in adverse impacts to resources important to the region, such as fish and wildlife habitat, special status species habitat, soil resources, and aquatic resources. Changes to livestock management could affect the regional economy in the short term, but the long-term benefits of improved rangeland health and livestock forage could ultimately improve the regional economics of livestock production and management.

Wildfire and Fuels Management

The PA often experiences wildland fire; ignitions can quickly escalate to large fires due to annual grasses and brush, summer temperatures between 90° to 105° F, and humidity in the 5 percent to 25 percent range. Between 2009 and 2014, the PA experienced a total of 355 documented wildland fire starts, which burned 125,590 acres. The fire season typically starts in May and ends in mid-October; however, fires can occur as early as March and as late as December in dry years.

The size and severity of wildfires would likely continue within the PA. Reasonably foreseeable increases in recreation could indirectly result in increased wildfire ignitions because of an associated increase in the number of ignition sources, such as campfires and sparks from motorized vehicles.

Additional development of commercial, residential, industrial, transmission, and mining areas adjacent to, or on, public lands could also indirectly result in increased wildfire ignitions from construction and operation activities.

Cumulative Effects by Resource and Resource Use

Unless otherwise noted, the region of influence, or cumulative effects analysis area, is all lands within the Four Rivers Field Office Planning Area (PA).

4.21.2 Tribal and Cultural Resources

Future Anticipated Trends

Threats to cultural resources from wind and water erosion, animal and human intrusion, natural deterioration and decay, and development and maintenance activities would continue. An increased potential for impacts on cultural resources is expected through more intensive public use, increased access, and from other authorized land uses. Demands for cultural resource information from both scientific and interpretive interests are expected to continue. All of the aforementioned activities are expected to increase in intensity and are projected to be greater than existing management directive

can adequately address.

The reduction of impacts on cultural resources would continue under all alternatives within planned or permitted project areas through Class III inventory. Future cultural resource management would emphasize continued adherence to guidelines set forth under Section 106 and Section 110 of the NHPA (1966, as amended). However, in addition to existing methods, there would be an increased effort towards the continued protection and preservation of cultural resources with the implementation of newer technologies and methods to successfully catalog and manage the resources.

Future outreach opportunities include public education on the importance of cultural resources protection and continued implementation of site interpretation kiosks accessible to the public. Potential actions include but are not limited to: developing relationships with academic institutions to further promote the dissemination of information by using archaeological field schools, archaeological testing and excavation, and processing existing collections and soil samples from former project testing and excavation. Additional outreach opportunities include solidifying cooperative partnerships with academic institutions by creating student internships, cooperative projects, and public outreach to include continued support and cooperation with the Oregon-California Trail Association.

Cumulative Effects

Under the Proposed Plan, impacts on cultural resources would be reduced with the continued practice of Class III inventory prior to project implementation. Continued mitigation measures of avoidance and other protection efforts for identified sites would also aid in the preservation of known resources under all alternatives. In the event site avoidance or protection is neither feasible nor possible, efforts would be conducted to identify, record, and catalogue at-risk resources. Any ground-disturbing action, to include fire and fuels management, vegetation restoration, off-highway vehicle use, recreation management, timber harvest, mining, and grazing can damage or destroy cultural resources. The sale or exchange of federal lands would cause those cultural resources under current federal management to lose protection under federal law.

Environmental impacts greatly influence the condition and location of resources. The environment also affects the ability to successfully locate, identify, and interpret past human activity. Increased population and the consequent impacts from increased human activity could both affect the original context of cultural resources. Under all alternatives including the Proposed Plan, population growth and environmental impacts of that growth within the PA will continue to be challenges for cultural resource management. Only a small percentage of the PA has undergone Class III inventory, so the number and condition of cultural resources is still unknown. Under all alternatives including the Proposed Plan, only continued efforts towards a full inventory and preservation of cultural resources would provide a clearer picture of past human activity.

Adverse impacts on cultural resources would be greater where population growth and associated increases in development, recreation, and other surface-disturbing activities are located. Based on management actions within Alternative A, which proposes limited natural resource protection measures on public land, vegetation degradation and the subsequent impact to cultural resources would continue.

Alternative B would benefit cultural resources more than any other alternative from restrictions on surface disturbance. Restrictions within ACECs, reduced impacts associated with cross–country OHV use, areas with restrictions on mineral and renewable energy development, and ROW avoidance and exclusion areas would provide beneficial impacts by protecting cultural resources. However, because of the scattered nature of public lands within the PA, continued development and surface-disturbing

activities on adjacent land could continue to cumulatively impact cultural resources throughout the PA. Land tenure adjustments where BLM acquires other lands with equal or higher resource value to help consolidate public lands in exchange for areas under current federal management could adversely affect cultural resources located on those lands proposed for exchange by taking them out of federal ownership and federal protection. However, the acquisition of new lands to help consolidate holdings could add valuable cultural resources which would then be further protected.

The potential for greater cumulative adverse impacts under Alternative C is greater than Alternative B but less than under a No-Action Alternative A. Impacts under Alternative D would be similar to those proposed under Alternative B; however, as fewer acres would be protected from surface-disturbing activities, the potential for adverse impacts would be greater than under Alternative B but less than under Alternatives A and C. Impacts of the Proposed Plan are similar to those described for Alternative D.

4.21.3 Paleontological Resources

Past and Current Trends

Illegal fossil collection continues to be a problem within the PA. Documented vertebrae fossils have been collected from the Pliocene Glenns Ferry formation near what is now part of the Hagerman Fossil Beds National Monument. In response to these ongoing challenges, government paleontologists and geologists have collaborated in the past with interested amateurs who have informed the BLM of fossil locations, brought unidentified fossils to the attention of qualified scientists, and informed authorities of illegal collection.

Future Anticipated Trends

The BLM Idaho State Office has recently contracted for an overview of paleontology sites on BLM managed lands statewide. There are some formations with potential and fossils have been found on private lands. Future trends look toward continued collection on public lands with restrictions. Fossils could continue to be adversely impacted by ground-disturbing activities; however, such activities could lead to the discovery of unknown specimens.

Continued partnerships with other agencies, amateurs, and the Idaho Museum of Natural History will help foster continued discovery within a PA rich in paleontological resources.

Cumulative Effects

Under all alternatives, impacts on paleontological resources would be reduced with fewer ground-disturbing activities. Though vertebrate fossil localities are very difficult to find and are usually discovered by accident or by planned project implementation, continued mitigation measures of recordation, possible collection, and avoidance of adverse impacts would help continue the preservation of known resources under all alternatives. Any ground-disturbing activity has the potential for damaging or destroying paleontological resources. Population increases in the PA and the associated increased development on private lands, increased recreation visitor days, and other changes in lands use would increase the potential for inadvertent discovery, loss, or damage to these resources. The sale or exchange of federal lands would also transfer known, and possibly unknown, resources out of federal management and the protection of federal law.

4.21.4 Vegetation Resources

Past and Current Trends

The quality of big sagebrush habitats has declined in the PA in the past 20 years. This downward trend is particularly evident in the southern portion of the PA, where wildfires, livestock grazing, and the proliferation of annual invasive species has altered vegetation communities (BLM 2008b).

Cheatgrass and invasive annual grasses have become dominant in these areas. In all, approximately 20 percent of BLM managed lands within the PA are composed of invasive annual species.

Forest communities throughout the PA are dynamic and are impacted most from events such as timber harvest, disease, or wildfire. Noxious weeds and invasive plants are common and have spread from past surface-disturbing activities.

Future Anticipated Trends

The downward trend of upland vegetation would likely continue but could be slowed through effective fuels and fire management, active restoration and improvements, and other protective management actions associated with balancing natural resource values and development that is associated with population growth. Surface-disturbing activities within the PA, either on public land or adjacent to it, could impact vegetation by acting as a vector for the introduction and spread of noxious weeds and invasive plants, which can increase fine fuels and wildfire danger. An increase in future development within the analysis area could increase fragmentation within the PA. Protection measures on public lands for natural resources could help slow the cumulative downward trend in vegetation quality. Future trends in riparian and wetland communities could continue to trend upward if protective management actions are followed. Forest structure would likely continue to change as a result of wildfire, climate, insects, timber harvest, improper livestock grazing management, and the introduction and spread of noxious weeds and invasive plants.

Noxious weeds and invasive plants are likely to continue to be introduced and spread throughout the PA in the future. The cost and complexity of managing noxious weeds and restoring native habitats increases the longer these situations are not adequately addressed. Implementation of existing management and continued or increased program emphasis and cooperative efforts can help reach objectives in the future.

Cumulative Effects

Improvements to degraded vegetation communities through proposed restoration, active fuels management, and limiting OHV use to designated trails would help slow the downward trend that would likely result from projected population growth and increased development and recreation. More proposed restrictions within ACECs and for ROW and renewable energy development and mineral exploration and development could mean fewer surface-disturbing activities within important resource areas and could result in maintenance of these important resources, including vegetation, over the long term. When added cumulatively to other past, current, and future anticipated trends, vegetation removal and degradation is likely to continue, but at a reduced rate.

4.21.5 Special Status Species

The cumulative impact analysis area for Greater Sage-Grouse is defined as the Snake River Plain Sage-grouse Management Zone (Management Zone IV), as described by Stiver et al. (2006). This larger area was selected due to the influence of regional management on sage-grouse populations at a landscape scale.

Past and Current Trends

Special status mammals, birds, amphibians, and reptiles have been impacted through the loss or conversion of upland, riparian, and wetland habitats, introduction of exotic species, increased roads and motorized vehicle use, recreational uses, degraded water quality, and chemical treatments of lands from industrial, agricultural, and residential applications, as well as disease outbreaks. The downward trend of shrub-steppe communities impacts native fish and wildlife species that depend on these ecosystems for forage and cover. This includes habitat for SSAs within the shrub-steppe and perennial grassland vegetation community, such as pygmy rabbits, Columbian sharp-tailed grouse, and

Brewer's sparrow, which has declined over the last 20 years, resulting in disturbed and fragmented habitat and a decline in species abundance. Habitat for shrub-steppe and perennial grassland SSAs, such as southern Idaho ground squirrel and burrowing owl, has been influenced by wildfire, livestock grazing, OHV use, and development (Van Horne et al. 1997). Habitat for riparian species, such as redband trout, has been degraded where management activities result in increased sediment loads and temperature levels (Zoellick and Cade 2006). Habitat adjacent to streams for terrestrial riparian species, such as the willow flycatcher and yellow-billed cuckoo, also has been altered by past activities near streams, resulting in loss of cover and nesting structure. Habitat for forest and woodland species, such as flammulated owls, has been affected by disease outbreak, logging, and wildfire (Saab and Dudley 1998, Cushman et al., 2011).

Threats to sage-grouse in the PA include wildfire, weeds/annual grasses, energy development, infrastructure, improper livestock grazing, West Nile virus, and isolated populations (Weiser Population). Sage-grouse habitat within the PA follows the trends described for shrub-steppe, perennial grassland, and rangelands vegetation resources under the Fish and Wildlife section of this RMP. Over time, sage-grouse habitat within the PA has been converted and fragmented to the extent that the Weiser population is considered to be the population most at-risk for extirpation in Idaho (ISAC 2006). This is due to a high proportion of private lands, low sage-grouse population numbers, high amounts of annual grasslands, and lack of connectivity with other sage-grouse populations in Idaho and Oregon (ISAC 2006).

Future Anticipated Trends

Future anticipated trends for SSAs would be similar to those discussed for Fish and Wildlife. Continuing negative sage-grouse population trends within the Snake River Plain are cause for concern, especially for a species with already low relative population numbers. These trends have led BLM to amend its land use plans to identify sage-grouse habitat and provide management direction to minimize the impact development has on it. The effectiveness of these plan amendments will influence the future trends for sage-grouse. For species that also use shrub-steppe and perennial grassland habitats and riparian habitats, management actions that reduce habitat loss, fragmentation, and disturbance (human and natural) will be most beneficial in reducing downward trends and impacts from adjacent non-BLM lands.

Cumulative Effects

Cumulative effects on most SSAs would be similar to those described for Alternative B in the Draft RMP/Draft EIS. Cumulative impacts on bull trout would be the same as described for Alternative C in the Draft RMP/Draft EIS, but due to a reduction in number of stream miles proposed for restoration, redband trout would be adversely impacted more than in Alternative B. Cumulative adverse impacts to southern Idaho ground squirrel would be reduced compared to under Alternative A, due to NSO restrictions and avoidance stipulations in occupied habitat.

Impacts of management actions, in combination with regional impacts, would not add cumulatively to long-term adverse impacts on SSAs and may benefit some SSAs like sage-grouse, but would not be as aggressive as Alternative B in implementing habitat improvement actions that could slow or reverse the downward trends in these populations.

Special Status Plants

Past and Current Trends

The quality of big sagebrush habitats has declined in the PA in the past 20 years. This downward trend is particularly evident in the southern portion of the PA as described in Section 4.21.4. Slickspot peppergrass was recently listed as Threatened under the ESA. The primary threat to slickspot peppergrass is degradation of its habitat due to increased frequency and extent of wildfires intensified

by the spread of invasive plants (USFWS 2009). Packard's milkvetch was listed as a Candidate species under the ESA, and its primary threats also include wildfire and invasive plants, though OHV use is an immediate threat in its very limited range (USFWS 2010d).

Future Anticipated Trends

Numerous disturbances, such as urbanization, OHV use, wildfire, livestock grazing, ROW developments, and mining would continue to threaten SSPs and their habitats and many of these disturbances would likely increase as the population is expected to rise. Such disturbances may lead to degradation and ultimately SSP habitat destruction. It is anticipated that management of SSPs would continue with an emphasis on development and implementation of actions to protect this priority resource (e.g., avoidance and exclusion areas, OHV restrictions, and weed control). Active management though the conservation agreement (CA) (BLM and USFWS 2014) and candidate conservation agreement (CCA) (State of Idaho et al. 2006) and associated conservation measures provide a framework for management actions that would moderately benefit slickspot peppergrass across the PA and its range.

Cumulative Effects

Active fuels management, improvements to degraded vegetation communities through proposed restoration, and limiting OHV use to designated trails would be similar to Alternatives B and C in the Draft RMP/Draft EIS, which would help slow the downward trend that would likely result from continued population growth and increased consumptive uses as described in Alternative A. The same exclusions to ROW and renewable energy development and similar mineral exploration and development restrictions could mean less surface-disturbing activities within SSP occupied habitat and could result in maintenance of these important resources over the long term, similar to Alternative B in the Draft RMP/Draft EIS. When added cumulatively to other past, current, and future anticipated trends, SSP habitat removal and degradation is likely to continue, but at a reduced rate, resulting in fewer adverse cumulative impacts than under Alternatives A and C, but slightly more than Alternative B.

4.21.6 Fish and Wildlife

Region of Influence

The cumulative impacts on fish and wildlife species are directly related to the management of vegetation within the PA. Therefore, the region of influence for fish and wildlife is considered the same as for vegetation resources: all lands within the PA. Within this area, management activities on public lands could impact fish and wildlife on adjacent parcels not under BLM management, and management on adjacent parcels could impact fish and wildlife on public lands. Management activities can also impact fish and wildlife beyond the boundaries of the PA, affecting population status, connectivity, and overall health.

Past and Current Trends

Past and current trends for Fish and Wildlife would be similar to those discussed for Special Status Animals and are directly related to the quantity and quality of habitat within the PA.

Future Anticipated Trends

Future fish and wildlife trends in the PA would be dependent on the maintenance of rangeland vegetation communities. However, current human population trends in the region indicate a higher future demand and impact on natural resources in these areas. To offset these demands, sagebrush-steppe ecosystems would need to be enhanced and expanded. Improving sagebrush-steppe on public lands while managing for diverse, abundant, and high-quality fish and wildlife habitats would depend on wildfire and weed management programs, successful upland and riparian habitat

restoration and rehabilitation programs, and a resource-aware approach to development. Whether these efforts are implemented, and their effectiveness, would determine the future trends of fish and wildlife within the PA.

Cumulative Effects

Restoration and rehabilitation actions would improve habitat quality for fish and wildlife. The Proposed Plan also proposes more restrictions for development, recreation, and extractive resource use throughout the PA, more so than Alternatives A and C. These additional restrictions could minimize the cumulative adverse impacts on fish and wildlife in a similar, but lesser, manner as Alternative B and could provide a cumulative benefit as described for Alternative C in the Draft RMP/Draft EIS.

The Proposed Plan and Alternative D would provide management actions that, when added cumulatively to future actions and regional influences within the PA, could slow or reverse the downward trend of important vegetation communities found in the PA, especially sagebrush steppe. The management actions aim to protect fish and wildlife from human-related disturbance and their habitats from degradation, fragmentation, and loss. In the case of bighorn sheep, best management practices would be implemented to reduce potential contact between domestic sheep and bighorn sheep, but there would be potential for contact.

4.21.7 Aquatic Resources

Past and Current Trends

Within the PA, 47 streams have been listed by IDEQ as water quality limited/impaired, also known as 303(d) streams, for one or more of the indicators (e.g., sediment, temperature, nutrients, etc.). Of the 47.1 miles of 303(d) listed streams, 25.9 miles (55 percent) were meeting water quality standards, and 45 percent were not meeting standards. The most common water quality limiting factors are sediment, nutrients, and temperature. Approximately 78 percent (337 miles) of BLM-monitored streams are rated as properly functioning, and 22 percent (96.8 miles) are functional-at-risk with a static trend. Freshwater springs are primarily functional-at-risk with a static trend (49 percent) or functioning properly (32 percent). Impacts on aquatic resources from roads, livestock grazing, wildland fires, and other surface-disturbing activities are expected to continue within the PA.

Future Anticipated Trends

Population growth and increased development in the PA is expected to increase human activities and resource pressures on public land, resulting in increased ground-disturbing activities. Ground-disturbing activities, such as increased infrastructure development and elevated risk of wildfires, could result in elevated sediment and nutrient delivery to waterbodies and may result in temperature increases due to removal of streambank vegetation. More effective livestock management and improved rangeland health could lead to reductions in sedimentation and nutrient delivery due to more stable vegetation and ground surfaces.

Cumulative Effects

Adverse impacts on aquatic resources would be greater in areas where population growth and development are expected to increase in the PA. Continuing BLM management would be to authorize only those uses and activities that further comply with the State of Idaho water quality standards. Uses and activities would emphasize water resource objectives, such as reduction of erosion and sedimentation. Uses and activities would be managed to meet water quality standards on water quality limited stream segments. The Proposed Plan and Alternatives B and D would make the most progress towards achieving the goals and DFCs in the shortest time by maintaining more miles of stream in PFC; they would also protect soils and reduce indirect impacts on aquatic resources from

sedimentation; and when added to the future anticipated trends, would have the least cumulative impact on aquatic resources. Alternatives A and C would make slower progress towards achieving water resource goals and DFCs over the long term by maintaining fewer miles of stream in PFC than the Proposed Plan and Alternatives B and D, and when added to the future anticipated trends, would have slight cumulative impacts on aquatic resources. The impacts on aquatic resources from the past, current, and future anticipated trends when added to impacts expected under each alternative would not differ greatly between alternatives but would result in temporary and long-term impacts on water quality from increased nutrient and sediment delivery to waterbodies.

4.21.8 Wild Horses

Past and Current Trends

Management has been focused on the gathering and removal of wild horses at a level and frequency to ensure natural resources protection, and to maintain a balance with other multiple uses, including livestock grazing, wildlife habitat, and recreation, among others. Recreational use of the Four Mile HMA by a variety of public user groups has resulted in direct harassment, indirect disturbance, stress, and reduced horse use in areas experiencing the heaviest recreational pressure. The area is popular for big game and upland game bird hunting, OHV use, equestrians, hiking, and camping. In addition, wild horses compete with domestic livestock and wildlife for forage within the HAs. Inevitably, conflicts arise between wild horses and other multiple uses on public lands.

Future Anticipated Trends

Reasonably foreseeable increases in recreation, such as camping and backpacking, could result in potential harassment of wild horses. Additional development of commercial, residential, industrial, transmission, and mining areas adjacent to, or within the HAs, could also result in increased potential for wild horse harassment and loss of habitat and vegetation for forage.

Cumulative Effects

The overall regional impacts on wild horses would be the same as those described under direct and indirect impacts.

4.21.9 Wildfire Ecology and Fuels Management

Region of Influence

The region of influence for wildfire ecology and fuels management is all lands within the BLM Boise District boundary.

Past and Current Trends

The Boise District often experiences fire ignitions that quickly escalate to large fires, due to fuel types including annual grasses and brush, combined with hot summer temperatures and low humidity. Although the majority of fires in the PA are human-caused, lightning-caused fires burn the majority of acreage. Human-caused fires starts are primarily due to vehicles, equipment, railroads, debris burning, and incendiary devices such as fireworks. Regional influences to wildfire ecology and fuels management include population growth, increased recreation use of the region, and increased demand for energy projects and infrastructure.

Activities that affect wildfire ecology are fire suppression, livestock grazing, timber harvesting, spread of noxious weeds and invasive plants, drought, and insect and disease outbreaks. Although development or recreation on or adjacent to public lands has created the potential for increased human-caused wildfires, the construction of new roadways or trails has also created better access for firefighters.

Communities at Risk (CAR) and associated WUI areas are scattered throughout the PA (Map 3-6). Locating areas of hazardous fuels is an important step in mitigating the risk of wildfire to CAR and

WUI areas. The FRFO implements vegetation treatments throughout the PA, particularly where hazardous fuels threaten CAR and WUI areas. Urban, suburban, and vacation developments have increased in the PA, creating a corresponding increase in WUI areas.

The number and size of ESR projects in the PA has been driven by fire activity from the previous season and Congressional funding, which makes the overall trend, in terms of size, location, and number of ESR projects highly variable. The locations and types of ESR projects have become more diverse as WUI areas expand and new resource concerns develop.

Future Anticipated Trends

The size and severity of wildfires would likely continue within the PA. Reasonably foreseeable increases in recreation, such as OHV use and camping, could indirectly result in increased wildfire ignition because of an associated increase in the number of ignition sources, such as campfires and sparks from OHVs. Additional development of commercial, residential, industrial, transmission, and mining areas adjacent to, or on, public lands could also indirectly result in increased wildfire ignition from construction and operation activities. Targeted and prescribed grazing could be used as a management tool to reduce fine fuels.

WUI issues in the PA are likely to increase due to the growth of population centers and heightened demand for vacation homes and developments. Developing risk assessments and mitigation plans would allow counties and communities within the PA to determine their current fire hazard risk and to develop effective mitigation to minimize risks to people and property in WUI areas. Additionally, implementing community-based fuel reduction programs would provide opportunities for private landowners to work with public land management agencies to manage WUI areas. Community-based fuel reduction programs would help reduce the risk of wildfires, with associated lessened cumulative impacts on water quality, wildlife habitat, and soils in the WUI areas.

Cumulative Effects

The Proposed Plan would engage in active fuels management programs that would help reduce the size and severity of wildfires in the region. Active management would be conducted in the fuels management and protection zones to reduce the number of acres burned and to improve the resilience of plant communities to wildfire. Action would be taken to reduce early season fine fuel buildup in the fuels zone. Fuel breaks along existing roads would be designated, created, and maintained to reduce the spread of wildfires within the region. Active management within these zones would help to maintain and improve the overall vegetation composition of the Boise District when combined with other vegetation rehabilitation and protection efforts in other PAs.

4.21.10 Air Quality and Climate

Climate change is a global problem as GHGs emitted from human activities are long-lived and well-mixed in the atmosphere. The assessment of GHG emissions and climate change is extremely complex, because no direct links exist between GHG sources and climate change impacts. Given the global and complex nature of climate change, it is not currently possible to link projected GHG emissions associated with any particular activity to specific environmental impacts at a specific site or location.

The uncertainty in applying results from Global Climate Models (GCMs) to the regional or local scale (a process known as downscaling) limits our ability to quantify potential future impacts from GHG emissions at the local scale.

Total United States GHG emissions in 2010 were 6,821.8 Mt CO2 eq. From 1990 to 2010, United States emissions increased at an annual rate of 0.5 percent. Electricity generation and transportation are the largest sources of GHGs in the United States. In 2010, total GHG emissions for the State of

Idaho were 28.14 Mt CO2 eq, which represents about 0.4 percent of total United States emissions and 0.06 percent of global emissions (WRI 2013). The GHG emissions associated with the Proposed Plan and Alternatives A through D represent an even smaller fraction.

4.21.11 Visual Resources

Population growth and increased development in the PA are expected to increase public sensitivity regarding visual quality. The visual quality of open space on BLM managed lands situated next to communities would increase in importance over time. Increased vegetation restoration, hazardous fuels management, minerals development and exploration, proposals for land exchanges and ROWs, and recreation and transportation would increase short- and long-term effects on visual quality. However, visual quality would not degrade over the long term, provided VRM mitigation and BMP measures are followed on project-specific actions.

Past and Current Trends

During the past 35 years, public land user groups have developed greater concern for visual resources, prompting development of the VRM System and mitigation techniques to reduce visual contrasts across the landscape. Mitigation has become a high priority for applications that involved cultural modifications to the landscape, or long-term surface disturbance in areas of high visual quality or sensitivity.

Future Anticipated Trends

Development around urban and suburban areas is expected to continue during the life of the plan. Development would likely extend outward beyond the boundaries of existing development. The greatest amount of continued growth is projected in Ada and Canyon counties. Impacts on visual resources would result as land use patterns shift in these counties from agricultural to residential. Homes and subdivisions would be built, along with associated roads and other infrastructure.

The public's concern for visual resource management in the PA is expected to increase. Resource and energy development near population centers and popular recreation areas would continue to create conflicts for some who highly value visual resources. As population centers expand and recreational users radiate outward toward popular areas, certain areas may become more sensitive to landscape contrasts.

Cumulative Effects

Visual resources within the region would be adversely impacted by continued population growth and development. Management actions under this alternative would have the least potential for vegetation restoration projects and would be the least restrictive to cross-country OHV travel and mineral development. A downward trend of visual quality could continue.

4.21.12 Forestry and Woodland Management

Past and Current Trends

The current forest and woodland management program includes provisions for the harvest of 1.7 million board feet annually. Commercial harvesting primarily consists of selective thinning with an emphasis on fuels reduction and forest health. A large portion of the forested land on BLM-managed land within the PA is in the wildland-urban interface. These areas present a very high fire hazard due to forest conditions of high tree density, high fuel load, continuous ladder fuels, and proximity to private structures and/or developments. Current management includes treating these areas by thinning and with prescribed fire. Currently, timber sales are in progress or planned near Garden Valley, Placerville, and Horseshoe Bend. In addition, the FRFO is currently undertaking its first trial for biomass harvesting under a Stewardship contract. As part of this contract, approximately 70 acres near Placerville are being harvested for biomass to be used for wood-fired energy. The forestry

program also includes firewood permits issued to the public primarily for non-commercial use, and minimal sale amounts of posts, poles, and Christmas trees.

Future Anticipated Trends

It is anticipated that forest and woodland management would continue with an emphasis on moving the resource toward desired densities, species composition, and structure so that they resemble the historic range of variability. Management would strive to promote healthy and vigorous coniferous forests that are resilient to wildfire, and where aspen occurs in the PA, management would be aimed at promoting healthy and vigorous aspen with minimal competition. Treatments would continue to be implemented in forests and woodlands to reduce fuels, promote forest health, and accomplish the goals of the Healthy Forest Initiative, a national effort to reduce the risks severe wildfires pose to people, communities, and the environment. Forest and woodland products would continue to be a by-product of these treatments.

Cumulative Effects

Approximately 28,800 acres of forest and woodland land cover types occur on BLM managed land, representing about 1 percent of all forested land within the PA. Much of the timbered land is composed of small isolated tracts that lie adjacent to or near forested lands administered by the USFS or the Idaho Department of Lands. As such, management efficiencies may be gained through cooperative projects with adjacent landowners, and/or by disposing of isolated timbered lands to entities that can manage them more efficiently and cost effectively. The overall regional impacts on forestry and woodland management would be the same under all alternatives as timber harvest activities are similar in scope. Due to the small level of impacts from past, present, and reasonably foreseeable future actions, in connection with the proposed alternatives, substantive large-scale, long-term impacts on forestry and woodland management are not expected within the region of influence.

4.21.13 Livestock Grazing

Past and Current Trends

Livestock grazing has been present in and around the PA since as early as 1836. Mismanagement, overuse, and drought conditions led to range degradation in the early part of the century (Joyce 1989). However, increased range management and incorporation of grazing systems have improved range conditions over time (Joyce 1989). Within the region, much of the livestock grazing occurs on public land; however, grazing is also present on scattered areas of state and private lands. Livestock operations depending on forage produced on public land within the PA also depend on forage produced on other federal, state, and private lands. Regional influences to livestock grazing include population growth, increased recreation use of the region, and increased demand for energy projects and infrastructure. Wildland fire and fuels management has played a major role in forage availability within the PA and would have similar effects on intermingled and adjoining land ownerships. Loss of forage on public land during periods of recovery following wildfire, drought, or restoration treatments places additional burden on forage produced on other land ownerships. The larger the wildland fire, or the more intense and widespread the drought, the greater the demand and search for alternative forage.

Future Anticipated Trends

Population growth and increased development in the PA is expected to increase human activities and resource pressures on public land, resulting in increased ground-disturbing activities and potential losses to available forage. Ground-disturbing activities, such as increased infrastructure and roadways would continue to elevate the risk of wildfires. Conflicts between livestock operators and recreation user groups are expected to continue as major population centers in the region of influence continue to grow, and as public demand for recreational experiences increases over the life of the plan. Demand

for livestock grazing leases may increase commensurate with decreases in locally available private forage. However, availability of current or future permits and leases would be determined through federal grazing regulations, and therefore is expected to remain relatively stable. Conflicts are likely to result in more intensive livestock grazing management if AUMs remain constant, but available allotment area decreases. Because operational costs have increased while prices for livestock commodities have remained relatively stable or decreased, a reduction in AUMs could place greater financial burden on grazing permittees. Other decisions in the region related to sensitive resources (SSPs and SSAs, ACECs, etc.) could have similar effects of reducing AUMs or adjusting seasons/durations of use in compliance with Idaho BLM's Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management.

Cumulative Effects

The overall regional impacts on livestock grazing would generally be the same under all alternatives. As more lands in the region are developed for residential and commercial purposes and for energy or infrastructure, the land available for livestock grazing would be reduced. As dispersed recreation becomes more pervasive across the landscape, the land available for livestock grazing could also be reduced, and interactions between livestock and other human uses would increase. Reductions in livestock stocking rates may be a result of reduced area available for livestock grazing. Current grazing management would contribute to cumulative impacts in the region because livestock grazing is managed to improve, or at least not degrade, regional rangeland vegetation and water quality in the long term.

Due to the small level of impacts from past, present, and reasonably foreseeable future actions, in connection with the proposed alternatives, long-term impacts on livestock grazing would be expected to be minimal.

4.21.14 Recreation

Region of Influence

Decisions made in this RMP would likely affect uses and resources to some degree throughout east-central and southwest Idaho. This includes the Boise District BLM as well as the adjacent Boise and Payette National Forests and the Twin Falls District BLM.

Past and Current Trends

Dispersed recreation activities including OHV, utility vehicle (UTV) and off-road motorcycle riding, hunting, fishing, camping, driving for pleasure, and motorized and non-motorized boating have been popular in the PA for decades. More recent trends have seen dramatic increases in whitewater boating along the various forks of the Payette River, non-motorized trail use, including equestrian use, in the foothills surrounding the Treasure Valley, rock climbing, and technology-based activities such as geocaching. Over the last 10 years, recreational use has increased as a result of population increases in southwest Idaho, advancements in transportation, especially the development and popularity of motorized vehicles (OHVs, UTVs, and off-road motorcycles) and mountain bikes, and technological advances such as GPS (global positioning system) devices.

Tourism in Idaho has been heavily promoted over the last 15 years, bringing many new visitors to the region from out of state. Many of these visitors are looking for the additional expertise of an experienced outfitter or local guide and have increased the demand for these services. In the past, there has been a limited demand for special recreation permits for special event activities. This demand is slowly increasing for certain non-motorized events like mountain bike races, adventure trail runs, and triathlon type events.

Future Anticipated Trends

Historically, outdoor recreation public land users in the PA prefer experiences that are primitive, dispersed, undeveloped, and nature-based over those experiences that are developed, site-based, and provide a high level of services. It is expected that those types of recreation experiences would continue to increase in demand along with the more traditional types of recreation uses of hunting, fishing, hiking, horseback riding, driving for pleasure, camping, and target shooting. Access routes related to livestock grazing management, ROW developments, and motorized recreation have increased substantially over the last 20 years. Additionally, recreationists have pursued more remote locations for outdoor recreational experiences.

As the population within the PA grows, it is expected that more private land adjacent to BLM managed lands would be converted to housing developments of varying densities. This trend would place greater demand on the public lands to provide recreation opportunities for adjacent residents. This recreation demand may be in conflict with other resource values, such as wildlife habitat or other resource uses.

It is anticipated that as the population of the greater Boise metropolitan area continues to grow, the demand for a variety of recreational activities and experiences would increase. An increase in the use of developed recreation sites and campgrounds is also likely as the population increases.

4.21.15 Transportation and Travel Management

Past and Current Trends

The BLM provides public access for both motorized and non-motorized modes of travel. Dramatic population increases, explosive growth in the use of OHVs, advances in motorized technology, and industry marketing have resulted in heightened demands for public land access. This demand has generated more user conflicts on those lands, and greater impacts on resources such as wildlife habitat, soil, and cultural sites. One of the most significant and complex challenges is managing motorized activities and public access across 783,000 acres in the shadow of Idaho's most populous urban area.

Developing and implementing travel management plans in a timely manner would directly address and manage impacts on natural resources, reduce social conflicts, and ensure continued and appropriate motorized and non-motorized access to trails and roads on public land. Many resource uses, including energy development, grazing, forestry, and mining, continue to depend on a well-managed and maintained transportation system. Similarly, successful conservation and protection efforts for wildlife habitat, water and air quality, and cultural and other resources are dependent on active management of public access and OHVs.

The combination of rising population, adoption of new technologies, and an extensive public land base within easy driving distance of urban populations has expanded recreational use in the PA. This increased use has resulted in the formation of many miles of new, user-created trails, both motorized and non-motorized.

Along the Boise Front, recreational, non-motorized trail use (hiking, biking, and mountain biking) predominates. In other parts of the PA, motorized users have access to an extensive network of user-built trails. Informal trail-based OHV use predominates in the Big Willow Creek, Snake River Breaks, and Bennett Mountain areas.

Future Anticipated Trends

While the tremendous increase in OHV ownership and use may not continue at the same rate, it is expected to continue to increase over the life of the plan. This trend also suggests a continuing rise in demand for recreational access and use of public land. Without the implementation of travel strategies that provide managed, designated route systems across the PA, BLM anticipates significant public demand for routes not met, and potentially more impacts from use, as demand outstrips the available supply of drivable, sustainable vehicle routes and as user-built routes are carved out with greater frequency.

Cumulative Effects

The Proposed Plan generally focuses on protecting natural resources from impacts from the anticipated population growth in southwest Idaho while allowing continued access and uses. These designations restrict travel within the PA mostly to designated routes and few additional routes would be developed. Cross-country motorized travel would generally be limited to a select number of areas that can sustain this type of use. The cumulative impact from past, present, and reasonably foreseeable future actions would not greatly affect route density. Limiting motorized uses to designated routes would have an overall positive effect over the life of the plan as user and resource use conflicts would likely decrease.

4.21.16 Lands and Realty

Region of Influence

The region of influence would include the entire PA and the surrounding BLM districts of Vale, Oregon and Twin Falls, Idaho. These influences are present due to the connectedness of use authorizations that are more prevalent across these districts such as transmission lines, roads, and energy pipelines.

Past and Current Trends

The number of land use authorizations, particularly ROWs and permits, has been a function of demand for these uses. Historically, population growth, community expansion, and rural residences have led to an increase in demand for access and utility ROWs. This growth also led to an increased interest in land tenure adjustments with private parties. R&PP Act applications from local communities have also continued. There was a short-term increase in demand for wind power sites due to the availability of tax credits and national interest in energy independence; however, since the tax credits have ended, interest has decreased.

Applications for land uses and land tenure adjustments have historically fluctuated with the economy. Interest in renewable energy on public lands has slowed recently. There have been several small renewable energy projects proposed on private lands.

Future Anticipated Trends

It is anticipated that population growth would continue in the PA, and with that, development. Increased needs for access ROWs, utility ROWs, leases, and permits would continue across all lands. It is also anticipated that the need for renewable energy would increase in the future and requests to develop sites on public land would increase. Tax incentives, which have been a driver of these requests, may also amplify the demand for use of lands desirable for development. Requests for ROWs would increase across the region of influence as development and resource user demands increase; however, the overall impacts would be moderate. The cumulative effects of future anticipated trends across alternatives is difficult to predict, because it is not only difficult to predict demand for use of public land, it is difficult to predict the extent to which potential land uses that are excluded, avoided, or eliminated due to land consolidation would continue to occur on private lands.

For example, if a powerline is excluded from a portion of public land and more of it is located on private land, the cumulative impact to lands may be the same, but with a higher percentage of the use on private land. The real cumulative impact of the alternatives would be seen in the effects to other resources.

4.21.17 Minerals

Past and Current Trends

Drilling activity for oil and gas in the PA has been unsuccessful in discovering oil or gas in commercial quantities until recently. In 2010, a private natural gas energy exploration company drilled several wells near New Plymouth and recently announced its plans to develop a gas field. Public lands, including some split estate, are located immediately north of the field boundary. Demand for leasing will greatly increase if the field is successfully developed.

The presence of numerous hot springs and wells and several former Known Geothermal Resource Areas (KGRAs), along with collected data, indicate that all the lands within the PA have at least moderate potential for geothermal resource use for both indirect use and direct use (USDI, 2010). Currently there are approximately 12,330 acres under lease for geothermal exploration and development. Geothermal development on federal lands in the PA has yet to occur.

Mineral material demands have increased in the region of influence to meet the needs of local road districts as well as residential and commercial construction associated with the growing regional population.

Future Anticipated Trends

Cumulative effects of leasable mineral development could result from an increased demand due to the discovery of a valuable mineral resource as discussed above. This demand is expected to increase on a regional and national level. There are no cumulative impacts on locatable mineral resources because the future cumulative effects trends described above do not require areas to be withdrawn to locatable mineral resources. The area with favorable geologic conditions for oil and gas discovery is relatively small. It is anticipated that the PA would experience some sporadic oil and gas exploration activity during the life of the land use plan, especially in the Payette area (USDI 2010). The level of exploration activity would be highly dependent on the outcome of natural gas development currently occurring. The RFDS for oil and gas in the Four Rivers PA anticipates that up to 20 exploratory wells resulting in field development of up to 130 wells may be drilled during the next 20 years on all lands. It is anticipated that the PA would experience geothermal exploration and development activity during the life of the land use plan. The RFDS for geothermal in the Four Rivers PA anticipates that a 50-MW plant might be developed in areas determined to have high potential for indirect use. It is also assumed in the RFDS that a 20-MW geothermal power plant might be developed.

Cumulative effects to mineral material development would result from an increased demand due to local population growth trends discussed above. Development of commercial and residential properties would continue within the region of influence. As the surrounding region is developed, there could be an increased demand for salable minerals. Substantial utilization of available mineral material resources from public and private sources within the PA would continue for items such as sand, gravel, cinders, surface rock, and quarry rocks. Limitations on mineral material extraction within the PA could put additional demand for salable minerals on private sources, as well as other agencies that provide mineral programs such as the State of Idaho or the USFS.

4.21.18 Hazardous Materials and Public Safety

Access to public land provides potential for accidental spills involving hazardous materials or petroleum products and allows opportunity for illegal dumping by the public. Potential cumulative

impacts related to hazardous materials and public safety can be attributed to population growth, with the coinciding development and ROWs to support utility and transportation corridors and mineral leases. Increased demand for recreational use on BLM managed lands also provides additional opportunity for public safety issues. These types of activities allow for accidental hazardous materials or petroleum spills and incidents of illegal dumping to occur. Project-specific BMPs and resource stipulations would be required on BLM managed lands to ensure human health and safety and prevent environmental damage from hazardous materials and other safety hazards. All alternatives would adhere to State and Federal environmental regulations and no long-term cumulative impacts from hazardous materials or public safety issues are expected.

4.21.19 Special Designations and Lands with Wilderness Characteristics

Cumulative impacts on the special or unique values contained in existing and potential Special Designations and Lands with Wilderness Characteristics are addressed under the relevant cumulative impact section for that value (e.g., cumulative impacts on cultural values are addressed in the Cultural Resources section on cumulative impacts).

4.21.20 Social and Economic Conditions

Other actions within the analysis area that would affect output, employment, and income include all other types of economic activities that occur within the analysis area. The industry sectors affected by these economic activities include: retail trade, construction, accommodation and food services, and health and social services. The baseline conditions for the total economy of planning area are displayed in section 3.20.

Population growth is expected to have large impacts on both economic activity and land use in the FRFO. Population in Idaho is projected to grow by 25.2 percent to 1,935,000 by 2020. The ten-county region is expected to grow by 11.3 percent in the same time period, with nearly three-quarters of that growth occurring in the urbanized area of Ada and Canyon counties. To the extent that the population growth occurs as planned communities adjacent to BLM lands in the Eagle foothills or eastern Ada/western Elmore county area, it may cause recreation use of BLM lands to grow faster than the regional population.

The energy development portrayed in this analysis is expected to be part of a national trend toward new domestic and sustainable energy sources. Natural gas development on private lands in the Payette county area would be expected to synergize with development on BLM lands, particularly in the areas of gas treatment facilities for distributing gas directly into local consumption. The development of Neal Hot Springs geothermal facility near Vale, Oregon would provide modest synergies with geothermal development in the FRFO. These synergies come in the form of economies of scale in purchasing inputs and services.

As expected, the economic impacts of activities in the PA are very small in relation to the large economy of the ten-county region: in the short term, they account for less than one-half of one percent of all regional economic output, employment, and labor income. Over the long term, economic impacts of activities in the PA are expected to account for eight-one hundredths of one percent of all regional economic output, employment, and labor income. However, there is a clear pattern in the relative size of the impacts among alternatives, whether in the short or long term, and whether to economic output, employment, or labor income. Alternative A is projected to have the least beneficial economic impact across the range of indicators. The Proposed Plan and Alternatives C and D are projected to have the largest beneficial impact. With its focus on protecting non-market resource values like wildlife and plant habitat, Alternative B would consistently yield the lowest beneficial economic impacts. Despite these differences, because regional economic impacts are expected to be

driven primarily by past, present, and reasonably foreseeable future actions on private and state land, the incremental impact of any of the proposed alternatives to the region's economy would be negligible.

Glossary

Acquired Public Lands: Lands and/or any part of the mineral estate obtained by the United States through direct purchase, donation or condemnation. Also, lands and minerals obtained by the United States through the Weeks Act. In rare instances, lands and minerals conveyed to the United States through exchange take on the status of Acquired Lands where the lands conveyed from the United States are Acquired Lands.

Active Use: The current authorized grazing in an allotment, including conservation, may constitute a portion or all of permitted use, not including temporary non-use or suspended use.

Activity Plan: A detailed and specific plan for managing a single resource program or plan element undertaken, as needed, to implement the more general resource management plan (RMP) decisions. BLM prepares activity plans for specific areas to reach specific resource management objectives within stated timeframes.

Affect: to bring about a change. As a verb, affect is most commonly used in the sense "to influence" or "impact." The adjective "affected" means acted upon or influenced.

Air Pollutant Concentration: The masses of pollutants present in a volume of air and are often reported in units of micrograms per cubic meter (µg/m3). Concentration may also be reported on a volume basis as parts per million (ppm) or parts per billion (ppb).

Air Quality Rating: See Class I Air Quality Rating and Class II Air Quality Rating .

Airshed: An area that shares the same air because of topography, meteorology, and climate; the atmospheric zone potentially influenced by air pollutants from various sources.

Allotment: An area of land designated and managed for livestock grazing (43 CFR 4100.0-5).

Alternatives: Other options to the proposed action by which the BLM can meet its purpose and need. The BLM is directed by the NEPA to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.…" (NEPA Sec 102(2)E)

Amendment: The process for considering or making changes in the terms, conditions, and decisions of approved RMPs or MFPs. Usually only one or two issues are considered that involve only a portion of the planning area.

Analysis of the Management Situation (AMS): Step 4 in BLM's resource management planning process. An AMS describes a planning area's current public land management and suggests opportunities to better manage this land.

Animal Unit Month (AUM): The amount of forage needed to sustain one cow, five sheep, or five goats for a month.

Appropriate Management Level (AML): The number of adult horses (expressed as a range with an upper and lower limit) to be managed within an HMA. Forage for wild horses (AUMs) is allocated based on the AML upper limit. (BLM Handbook H-4700-1)

Area of Critical Environmental Concern (ACEC): Designated areas on public lands where special management attention is needed to protect, and prevent irreparable damage to important historical, cultural, and scenic values, fish, or wildlife resources or other natural systems or processes; or to protect human life and safety from natural hazards. (BLM Manual 1613)

Assessment: The estimation or judgement of the status of ecosystem structures, functions, or processes, within a specified geographic area (preferably a watershed or a group of contiguous

watersheds) at a specific time. An assessment is conducted by gathering, synthesizing, and interpreting information, from observations or data from inventories and monitoring. An assessment characterizes the status of resource conditions so that the status can be evaluated (see definition of evaluation) relative to land health standards. An assessment sets the stage for an evaluation. An assessment is not a decision.

Attainment Area: Areas for which compliance with the National Ambient Air Quality Standards has been demonstrated.

Back Country Byway: A component of the national scenic byway system which focuses primarily on corridors along back country roads which have high scenic, historic, archeological, or other public interest values. The road may vary from a single track bike trail to a low speed, paved road that traverses back country areas. (BLM Handbook H-8357-1, B 2)

Backcountry Conservation Area (BCA): BLM-managed lands in a specific planning area which promote public access to support wildlife-dependent recreation and hunting opportunities and facilitate the long-term maintenance of big game wildlife populations. These areas are primarily contiguous and intact. Management of BCAs includes activities such as active forest and rangeland management, grazing, motorized access on designated routes and other areas for game retrieval, fluid and solids leasable minerals, and other actions consistent with the BLM's multiple use, sustained yield mission.

Beneficial Outcomes: Improved conditions, maintenance of desired conditions, prevention of worse conditions, and the realization of desired experiences.

Best Management Practices (BMPs): A suite of techniques that guide, or may be applied to, management actions to aid in achieving desired outcomes. BMPs are often developed in conjunction with land use plans, but they are not considered a land use plan decision unless the land use plan specifies that they are mandatory. They may be updated or modified without a plan amendment if they are not mandatory.

Biological Diversity (biodiversity): The full range of variability within and among living organisms and the ecological complexes in which they occur. Biological diversity encompasses ecosystem or community diversity, species diversity, and genetic diversity.

Biological Vegetation Treatment: Methods of vegetation treatment that employ living organisms to selectively suppress, inhibit, or control herbaceous and woody vegetation. Examples of such methods include insects; pathogens; and grazing by cattle, sheep, or goats.

Candidate Species: Species not protected under the Endangered Species Act, but being considered by the U.S. Fish and Wildlife Service for inclusion on the list of federally threatened and endangered species.

Canopy: The cover or leaves of branches formed by the tops or crowns of plants as viewed from above the cover measured by the vertical projection downward of the extent of the cover and expressed as a percentage of the ground so covered.

Chemical Vegetation Treatments: The applying of chemicals to control unwanted vegetation.

Class I Air Quality Rating: Under the Clean Air Act, the rating given areas of the country selected to receive the most stringent degree of air quality protection. These areas include international parks, national wilderness areas (larger than 5,000 acres), national memorial parks (larger than 5,000 acres), and national parks (larger than 6,000 acres), which were in existence on August 7, 1977. Class I areas afford the highest protection to air quality by restricting the level of further degradation allowed.

Class II Air Quality Rating: Under the Clean Air Act, the rating given areas of the country selected for somewhat less stringent protection from air pollution damage than Class I areas, except in specified cases. These are attainment areas that do not meet Class I or Class III designations.

Class III Air Quality Rating: This class is assigned to attainment areas to allow maximum industrial growth while maintaining compliance with NAAQS.

Closed: Generally denotes that an area is not available for a particular use or uses; refer to specific definitions found in law, regulations, or policy guidance for application to individual programs. For example, 43 CFR 8340.0-5 sets forth the specific meaning of "closed" as it relates to off-highway vehicle use, and 43 CFR 8364 defines "closed" as it relates to closure and restriction orders.

Coarse Woody Debris: Fallen dead trees and the remains of large branches on the ground or in waterways.

Collaboration: A cooperative process in which interested parties, often with widely varied interests, work together to seek solutions with broad support for managing public and other lands.

Conformance: Means that a proposed action shall be specifically provided for in a land use plan or, if not specifically mentioned, shall be clearly consistent with the terms, conditions, and decisions of the approved plan or amendment. The BLM policy requires that a statement of land use plan conformance be included in a NEPA compliance document.

Cooperating agency: Assists the lead Federal agency in developing an EA or an EIS. A cooperating agency may be any agency that has special jurisdiction by law or special expertise for proposals covered by the NEPA (40 CFR 1501.6). Any Federal, State, tribal, or local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency.

Conservation Agreement: A formal signed agreement between the USFWS or NOAA-Fisheries and other parties that implements specific actions, activities, or programs designed to eliminate or reduce threats to, or otherwise improve the status of a species. Conservation agreements can be developed at a state, regional, or national level and generally include multiple agencies at both the state and Federal level, as well as Tribes. Depending on the types of commitments the BLM makes in a conservation agreement and the level of signatory authority, plan revisions or amendments may be required prior to signing the conservation agreement, or subsequently in order to implement the conservation agreement.

Conservation Strategy: A strategy outlining current activities or threats that are contributing to the decline of a species, along with the actions or strategies needed to reverse or eliminate such a decline or threats. Conservation strategies are generally developed for species of plants and animals that are designated as BLM sensitive species or that have been determined by the USFWS or NOAA-Fisheries to be Federal candidates under the Endangered Species Act.

Consistency: Means that the proposed land use plan does not conflict with officially approved plans, programs, and policies of Tribes, other Federal agencies, and state and local governments (to the extent practical with Federal law, regulation, and policy).

Cooperating Agency: Assists the lead Federal agency in developing an EA or EIS. The CEQ regulations implementing NEPA define a cooperating agency as any agency that has jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR 1501.6). Any Federal, state, local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency.

Cover: (1) Percentage of material, other than bare ground, covering the land surface. It may include live and standing dead vegetation, microbiotic crust, litter, cobble, gravel, stones and bedrock. Ground cover, plus bare ground, totals 100 percent; (2) plants or objects used by wild animals for nesting, rearing of young, escape from predators, or protection from harmful environmental conditions.

Cultural Resource: A location of human activity, occupation, or use identifiable through field inventory, historical documentation, or oral evidence. Cultural resources include archaeological and historical sites, structures, buildings, objects, artifacts, works of art, architecture, and natural features that were important in past human events. They may consist of physical remains or areas where significant human events occurred, even though evidence of the events no longer remains. And they may include definite locations of traditional, cultural, or religious importance to specified social or cultural groups.

Cultural Site: A physical location of past human activities or events, more commonly referred to as an archaeological site or a historic property. Such sites vary greatly in size and range from the location of a single cultural resource object to a cluster of cultural resource structures with associated objects and features.

Cumulative Action: Proposed actions, which, when viewed with the proposed action, potentially have cumulatively significant impacts related to one or more identified issues. Cumulative actions "should be discussed" in the same NEPA document (40 CFR 1508.25(a)(2)).

Cumulative Effect: "…the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions" (40 CFR 1508.7 and 1508.25).

Decision Maker: The BLM official who has been delegated authority to approve an action and is responsible for issuing a decision to implement a proposed action. Synonyms include authorized official, authorized officer, responsible official, and responsible manager

Design Features: Measures or procedures incorporated into the proposed action or an alternative, including measures or procedures which could reduce or avoid adverse impacts. Because these features are built into the proposed action or an alternative, design features are not considered mitigation.

Designated Corridor: BLM's preferred route for placing rights-of-way for utilities (i.e. pipelines and powerlines) and transportation (i.e., highways and railroads).

Desired Outcomes: A type of land use plan decision expressed as a goal or objective.

Developed Recreation Site: Site that includes constructed recreation-related amenities such as parking, restrooms, trails, launch sites, and/or picnic tables.

Direct Effect: Result from BLM-authorized activities and generally occur at the same time and place as the management activity or action causing the impact.

Dispersed Recreation: Recreation that does not require developed sites or facilities.

Disruptive Activities: Those activities that disrupt or alter wildlife actions at key times or in important areas (feeding, breeding, nesting, herd movement, winter habitat). Disruptive activities are those which can result in reductions of energy reserves, health, reproductive success, or population.

Disturbance Corridor: Physical or behavioral disturbances caused by linear features such as roads or powerlines. Direct disturbances (e.g., habitat loss, alteration) are associated with the

development footprints. Indirect disturbances include behavioral avoidance or abandonment by wildlife or increased wildfires, invasives, or noxious weeds that degrade habitat conditions resulting in fragmentation.

Disturbance Regime: The regular pattern of occurrence or characteristic behavior of disturbance that includes type, intensity, frequency, and spatial extent.

Easement: The right to use land in a certain way granted by a landowner to a second party.

Effect: Impact to the human environment brought about by an agent of change, or action. Effects analysis predicts the degree to which the environment will be affected by an action. The CEQ uses both the terms "effect" and "impact" in the NEPA regulations; these terms are synonymous in the NEPA context. As a noun, other synonyms include consequence, result and outcome. Effects can be both beneficial and detrimental, and may be direct, indirect, or cumulative.

Element Occurrence: Special Status Plant occurrences. "An area of land and/or water in which a species or natural community is, or was, present" [NatureServe 2002].

Eligible River Segment: Qualification of a river for inclusion in the National Wild and Scenic Rivers System by determining that it is free flowing and, with its adjacent land area, has at least one river-related value considered to be outstandingly remarkable.

Endangered Species: Any animal or plant species in danger of extinction throughout all or a significant portion of its range as designated by the U.S. Fish and Wildlife Service under the Endangered Species Act. Also see Threatened Species.

Environmental Justice: The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socio-economic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and Tribal programs and policies.

Exclosure: An area fenced to exclude animals.

Extensive Recreation Management Area (ERMA): ERMAs recognize existing recreation use, demand, or Recreation and Visitor Services program investments and are managed to sustain principal recreation activities and associated qualities and conditions, commensurate with other resource and resource uses.

Federal Action: A BLM proposal is a Federal action when: (1) the proposal is at a stage in development where we have a goal and are actively preparing to make a decision on one or more alternative means of accomplishing that goal (40 CFR 1508.23); (2) the proposed action and effects are subject to BLM control and responsibility (40 CFR 1508.18); (3) the action has effects that can be meaningfully evaluated (40 CFR 1508.23); and (4) effects of the proposed action are related to the natural and physical environment, and the relationship of people with that environment (40 CFR 1508.8; 40 CFR 1508.14).

Federal Register: The official daily publication for rules, proposed rules, and notices of Federal agencies and organizations, as well as executive orders and other presidential documents. The *Federal Register* is published by the Office of the Federal Register, National Archives and Records Administration (NARA).

Fine Particulate Matter (PM2.5): Particulate matter that is less than 2.5 microns in diameter. Also see Particulate Matter.

Fire Management Plan: A plan that defines a program to manage wildland and prescribed fires and documents the fire management program in the approved land use plan.

Fire Suppression: All the work of extinguishing or confining a fire, beginning with its discovery.

Forage: All browse and herbage that is available and acceptable to grazing animals or that may be harvested for feed.

Forb: An herbaceous plant that is not a grass, sedge, or rush.

Free Flowing: River segments that are flowing in natural condition without impoundment, diversion, straightening, rip-rapping or other modification of the waterway that would encourage future construction of such structures. Used to determine eligibility of river segments in the Wild and Scenic Rivers Act

Fuel Loading: The amount of fuel present expressed by weight of fuel per unit area.

Fugitive Dust: Dust particles that are introduced into the air through certain actions such as soil cultivation or vehicles crossing open fields or driving on dirt roads or trails.

Functional-at Risk: (1) Condition in which vegetation and soil are susceptible to losing their ability to sustain naturally functioning biotic communities. Human activities, past or present, may increase the risks. (2) Uplands or riparian-wetland areas that are properly functioning, but a soil, water, or vegetation attribute makes them susceptible to degradation and lessens their ability to sustain natural biotic communities. Uplands are particularly at risk if their soils are susceptible to degradation. Human activities, past or present, may increase the risks

Fundamentals of Rangeland Health: Overarching principles of rangeland health, listed at 43 CFR § 4180.1, which establish the Department's policy of managing for healthy rangelands (60 Federal Register (FR) at 9954). State or regional standards and guidelines must provide for conformance with the Fundamentals of Rangeland Health (43 CFR § 4180.2(b)).

Goal: A broad statement of a desired outcome; usually not quantifiable and may not have established timeframes for achievement.

Grazing Lease: A document that authorizes grazing use of the public lands under Section 15 of the Taylor Grazing Act of 1934, as amended. A grazing lease specifies grazing preference and the terms and conditions under which lessees make grazing use during the term of the lease.

Grazing Permit: A document that authorizes grazing use of the public lands under Section 3 of the Act. A grazing permit specifies grazing preference and the terms and conditions under which permittees make grazing use during the term of the permit.

Grazing Preference: The total number of animal unit months on public lands apportioned and attached to base property owned or controlled by a permittee, lessee, or an applicant for a permit or lease. Grazing preference includes active use and use held in suspension. Grazing preference holders have a superior or priority position against others for the purpose of receiving a grazing permit or lease.

Growing Season: Period when plants are actively growing. Grasses and forbs are most susceptible to disturbance (e.g., grazing, recreation) during this period.

Guidelines: Actions or management practices that may be used to achieve desired outcomes, sometimes expressed as best management practices. Guidelines may be identified during the land use planning process, but they are not considered a land use plan decision unless the plan specifies that they are mandatory. Guidelines for grazing administration must conform to 43 CFR 4180.2.

Habitat: An area that provides an animal or plant with adequate food, water, shelter, and living space.

Habitat Fragmentation: Process by which habitats are increasingly subdivided into smaller units resulting in their increased insularity and losses of total habitat area.

Hazardous Materials (HAZMAT): An all-encompassing term that includes hazardous substances; hazardous waste; hazardous chemical substances; toxic substances; pollutants and contaminants; and imminently hazardous chemical substances and mixtures that can pose an unreasonable risk to human health, safety, and property.

Herd Area (HA): A geographic area occupied by a wild horse herd and its habitat in 1971.

Herd Management Area (HMA): An area established for maintaining wild horse herds.

Historical Site: A location that was used or occupied after the arrival of Europeans in North America (ca. A.D. 1492). Such sites may consist of physical remains at archaeological sites or areas where significant human events occurred, even though evidence of the events no longer remains. They may have been used by people of either European or Native American descent.

Human Environment: As defined by the Council on Environmental Quality (CEQ) the "human environment" shall be interpreted to include the natural and physical environment and the relationship of people with that environment. When economic or social effects and natural or physical environmental effects are interrelated, then the analysis must discuss all of these effects on the human environment (40 Code of Federal Regulations [CFR] 1508.14).

Impact: see 'effect'.

Impact Zones: Areas where smoke is likely to be a problem because of local topography, meteorology, other factors, or where existing air quality problems could be exacerbated by smoke [MT/ID Airshed Group 2010]. IDEQ considers impact zones to be smoke sensitive, and the zones are given additional air quality protection as needed.

Implementation Action: An action that implements land use plan decisions.

Implementation Decisions: Decisions that take action to implement land use plan decisions; generally appealable to IBLA under 43 CFR 4.410.

Implementation Plan: An area or site-specific plan written to implement decisions made in a land use plan. Implementation plans include both activity plans and project plans (they are types of implementation plans).

Important Wildlife Habitat: Area that supports wildlife during critical time periods such as breeding, nesting, brood-rearing, or winter.

Indicators: Components of a system whose characteristics (presence or absence, quantity, distribution) are used as an index of an attribute (e.g., rangeland health attribute) that are too difficult, inconvenient, or expensive to measure (Interagency Technical Reference 1734-8, 2000).

Indirect Effects: Effects that "…are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on water and air and other natural systems, including ecosystems" (40 CFR 1508.8(b)).

Interdisciplinary Team: Staff specialists representing identified skill and knowledge needs working together to resolve issues and provide recommendations to an authorized officer.

Intermittent Stream: A stream that generally flows during wet seasons, but is dry during dry seasons.

Invasive Species (Invaders): Plant species that were either absent or present only in small amounts in undisturbed portions of a specific range site's original vegetation and invade following disturbance or continued overuse.

Issue: A point or matter of discussion, debate, or dispute about the potential environmental effects or impacts, of an action. Issues point to environmental effects and may drive the development of alternatives to the proposed action.

Jurisdiction by Law: Means another governmental entity (Federal, State, tribal, or local agency) has authority to approve, veto, or finance all or part of a proposal (40 CFR 1508.15). The CEQ guidance provides for establishing a cooperating agency relationship with such entities in development of a NEPA analysis document.

Key Habitats: Area occupied by a species that is essential to its conservation and requires special management considerations or protections.

Land Health: Degree to which the integrity of the soil and the ecological processes of ecosystems are sustained.

Land Use Allocation: The identification in a land use plan of the activities and foreseeable development that are allowed, restricted, or excluded for all or part of the planning area, based on desired future conditions.

Land Use Authorization: A BLM land use authorization permits an applicant to use a specific piece of public land for a certain project. User-initiated proposals and applications generate the majority of requests for land use authorizations. The BLM receives inquiries and proposals from federal, state, and local governments, as well as from private individuals and companies interested in either acquiring access across or locating facilities on public land.

Land Use Plan: a set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of the Federal Land Policy and Management Act; an assimilation of land-use-plan level decisions developed through the planning process outlined in 43 CFR part 1600, regardless of the scale at which the decisions were developed. The term includes both Resource Management Plans and Management Framework Plans (H-1601-1, Glossary, page 4).

Leasable Minerals: Minerals whose extraction from federally managed land requires a lease and the payment of royalties. Leasable minerals include coal, oil and gas, oil shale and tar sands, potash, phosphate, sodium, and geothermal steam.

Litter: The uppermost layer of organic debris on the soil surface, essentially freshly fallen or slightly decomposed vegetal material.

Limited: Generally denotes that an area or roads and trails are available for a particular use or uses. Refer to specific program definitions found in law, regulations, or policy guidance for application to individual programs. For example, 43 CFR 8340.0-5 defines the specific meaning of "limited" as it relates to off-highway vehicle use.

Locatable Minerals: Minerals that may be acquired under the Mining Law of 1872, as amended.

Long-term Impacts: Impacts that could occur for multiple years, an approximation of the time required to restore or reclaim an area following surface disturbance should be provided.

Maintenance Area: Areas which are former non-attainment areas that now comply with the National Ambient Air Quality Standards.

Major Right-of-Way: Rights-of-way along which pass transmission lines (consisting of 115kV or higher) used to transmit large blocks of energy to load centers for distribution.

Manage for Wilderness Characteristics (MWC) Areas: Areas that contain values such as outstanding opportunities for primitive and unconfined recreation or outstanding opportunities for solitude and a few human intrusions, where preservation of these values represents a major management focus.

Management Decision: A decision made by the BLM to manage public lands. Management decisions include both land use plan decisions and implementation decisions.

Management Unit: Geographic area with similar management objectives or considerations

Manual Vegetation Treatment: The use of hand operated power tools and hand tools to cut, clear or prune vegetation.

Mechanical Vegetation Treatments: The use of mechanical equipment to suppress, inhibit, or control herbaceous and woody vegetation. BLM uses wheeled tractors, crawler-type tractors, mowers, or specially designed vehicles with attached implements for such treatments.

Monitoring: Regular collection of information to determine the effects of resource management and detect changing resource trends, needs, and conditions.

Motorized Trail: A designated route that allows for the use of small-wheel-based motorized vehicles such as all-terrain vehicles and motorcycles.

Multiple Use: A combination of balanced and diverse resource uses that considers long-term needs for renewable and nonrenewable resources including recreation, wildlife, rangeland, timber, minerals, and watershed protection, along with scenic, scientific, and cultural values.

National Historic Trail: One of the three categories of national trails defined in the National Trails System Act of 1968 that can only be established by act of Congress and are administered by federal agencies, although part or all of their land base may be owned and managed by others. National historic trails are generally more than 100 miles long and follow as closely as possible and practicable the original trails or routes of travel of national historic significance. Their purpose is identifying and protecting the historic route and its remnants and artifacts for public use and enjoyment.

National Recreation Trail: One of the three categories of national trails defined in the National Trails System Act of 1968 that can only be established by act of Congress and are administered by federal agencies, although part or all of their land base may be owned and managed by others. National Recreation Trails are existing regional and local trails recognized by either the Secretary of Agriculture or the Secretary of the Interior upon application.

National Register Eligible Properties: Cultural resource properties that meet the National Register criteria and have been determined eligible for nomination to the National Register of Historic Places because of their local, state, or national significance. Eligible properties generally are older than 50 years and have retained their integrity. They meet one or more of four criteria - (a) associated with events that have made a significant contribution to the broad patterns of our history; (b) associated with the lives of persons significant in our past; (c) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master; and (d) have yielded, or may be likely to yield, information important in prehistory or history.

National Register of Historic Places: The official list, established by the National Historic Preservation Act, of the Nation's cultural resources worthy of preservation. The National Register lists archeological, historic, and architectural properties, such as districts, sites, buildings, structures, and objects nominated for their local, State, or national significance by State and federal agencies and approved by the National Register Staff. The National Park Service maintains the National Register.

National Wild and Scenic River System: A system of nationally designated rivers and their immediate environments that have outstanding scenic, recreational, geologic, fish and wildlife, historical, cultural, and other similar values and are preserved in a free-flowing condition. The system consists of three types of streams - (1) recreation—rivers or sections of rivers that are readily accessible by road or railroad and that may have some development along their shorelines and may have undergone some impoundments or diversion in the past, (2) scenic—rivers or sections of rivers free of impoundments with shorelines or watersheds still largely undeveloped but accessible in places by roads, and (3) wild—rivers or sections of rivers free of impoundments and generally inaccessible except by trails with watersheds or shorelines essentially primitive and waters unpolluted.

Native plant and animal populations and communities: Populations and communities of all species of plants and animals naturally occurring, other than as a result of an introduction, either presently or historically in an ecosystem.

Neotropical Migratory Birds: Birds that travel to Central America, South America, the Caribbean, and Mexico during the fall to spend the winter and then return to the United States and Canada during the spring to breed. These birds include almost half of the bird species that breed in the United States and Canada.

Non-attainment Area: An area in which the level of a criteria air pollutant is higher than the level allowed by the federal standards. A single area may have acceptable levels of one criteria air pollutant but unacceptable levels of one or more other criteria air pollutants. Therefore, an area can be both attainment and non-attainment at the same time.

Nonfunctional Condition: (1) Condition in which vegetation and ground cover are not maintaining soil conditions that can sustain natural biotic communities. (2) Riparian-wetland areas are considered to be in nonfunctioning condition when they don't provide adequate vegetation, landform, or large woody debris to dissipate stream energy associated with high flows and thus are not reducing erosion, improving water quality, or other normal characteristics of riparian areas.

Nonpoint Source Pollution (water): Pollution sources that are diffuse and do not have a single point of origin or are not introduced into a receiving water body from a specific outlet. These pollutants are generally carried off the land by storm water runoff from such sources as farming, forestry, mining, urban land uses, construction, and land disposal.

Normal Range of Variability: The deviation of characteristics of biotic communities and their environment that can be expected given natural variability in climate and disturbance regimes (Pellant et al. 2000).

Notice of Availability (NOA): The *Federal Register* notice that an EIS (draft or final) or record of decision is available. Publication of a notice of filing of an EIS by the Environmental Protection Agency formally begins the public comment period. An NOA may also be published for an EA.

Notice of Intent (NOI): this *Federal Register* notice announces that an environmental impact statement or an EA-level land use plan amendment will be prepared. Publication of this notice formally starts the scoping process.

Noxious Weed: The Federal Noxious Weed Act, 1974 (PL 930629) defines a noxious weed as, "any living stage (including seeds and reproductive parts) of a parasitic or other plant of a kind which is of foreign origin, is new to or not widely prevalent in the U.S., and can directly or indirectly injure crops, other useful plants, livestock, poultry or other interests of agriculture, including irrigation, navigation, fish and wildlife resources, or the public health."

Noxious Weed Distributions: Noxious weed distributions are defined as extensive, scattered throughout or limited "Extensive" means the noxious weed is known in a majority of the counties and there are large infestations. "Scattered throughout" means populations are known to occur in all counties with some large infestations. "Limited" means the populations of noxious weeds are localized in a few counties, in a few locations.

Objective: A description of a desired future resource condition to be achieve in a specified time frame to meet land use plan goals.

Off-Highway Vehicle (OHV): Any vehicle capable of or designed for travel on or immediately over land, water, or other natural terrain (deriving motive power from any source other than muscle.) OHVs exclude (1) any non-amphibious registered motorboat; (2) any fire, emergency, or law enforcement vehicle while being used for official or emergency purposes; and (3) any vehicle whose use is expressly authorized by a permit, lease, license, agreement, or contract issued by an authorized officer or otherwise approved. (43 CFR 8340.0-5)

Off-Road Vehicle (ORV): See Off-Highway Vehicle (OHV) .

Outstandingly Remarkable Values (ORV): Used to evaluate eligibility of river segments under the Wild and Scenic Rivers Act. Outstandingly remarkable values are defined as natural and cultural resources that are either unique at a regional level or exemplary at the national level.

Overstory: The portion of the trees in a forest stand forming the upper crown cover. Also see Understory.

Paleontological Resources: The remains of plants and animals preserved in soils and sedimentary rock. Paleontological resources are important for understanding past environments, environmental change, and the evolution of life.

Particulate Matter: Fine liquid or solid particles suspended in the air and consisting of dust, smoke, mist, fumes, and compounds containing sulfur, nitrogen, and metals. Also see Fine Particulate Matter (PM2.5) .

Payments in Lieu of Taxes (PILT): Payments made to counties by BLM to mitigate losses because public lands cannot be taxed. BLM calculates the amount of payments using a formula based on population and the amount of federal land in a particular local jurisdiction. These payments are in addition to federal revenues transferred to local governments under other programs, such as income generated from timber harvests, mineral receipts, and the use of federal land for livestock grazing.

Perennial Plant: A plant that has a life cycle of 3 or more years.

Perennial Stream: A stream that flows continuously during all seasons of the year.

Permitted Use: The forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease, and is expressed in Animal Unit Months (AUMs) (43 CFR § 4100.0-5).

Personal Income: The sum of wage and salary payments, other labor income, proprietors' income, rental income of persons, personal dividend and interest income, and transfer payments to persons, less personal contributions for social insurance.

PILT: See Payments in Lieu of Taxes (PILT) .

Plan Evaluation: The process of reviewing the land use plan and the periodic plan monitoring reports to determine whether the land use plan decisions and NEPA analysis are still valid and whether the plan is being implemented.

Plant Succession: The process of vegetational development by which an area becomes successively occupied by different plant communities of higher ecological order.

Plant Vigor: The relative wellbeing and health of a plant as reflected by its ability to manufacture enough food for growth and maintenance.

PM10 Particulates: A criteria air pollutant consisting of small particles with an aerodynamic diameter of 10 microns or less. Their size allows them to enter the air sacs deep within the lungs where they may be deposited in have adverse health effects. These particles include dust, soot, and other tiny bits of solid materials in the air.

PM2.5 Particulates: Tiny particles with an aerodynamic diameter of 2.5 microns or less. These particles penetrate most deeply into the lungs.

Population: A group of interbreeding organisms of the same kind occupying a particular space; a group of individuals of a species living in a certain area.

Potential Natural Community (PNC): The stable biotic community that would become established on an ecological site if all successional stages were completed without human interference under present environmental conditions. The PNC is the vegetation community best adapted to fully use the resources of an ecological site.

Preferred Alternative: The alternative the BLM believes would reasonably accomplish the purpose and need for the proposed action while fulfilling its statutory mission and responsibilities, giving consideration to economic, environmental, technical and other factors. This alternative may or may not be the same as the BLM's or the proponent's proposed action.

Prescribed Fire (Burning): The planned applying of fire to rangeland vegetation and fuels under specified conditions of fuels, weather, and other variables to allow the fire to remain in a predetermined area to achieve such site-specific objectives as controlling certain plant species; enhancing growth, reproduction, or vigor of plant species; managing fuel loads; and managing vegetation community types.

Primary Road: See Road and Route Types.

Primitive Recreation: Recreation that provides opportunities for isolation from the evidence of humans, a vastness of scale, feeling a part of the natural environment, having a high degree of challenge and risk, and using outdoor skills. Primitive recreation is characterized by meeting nature on its own terms, without comfort or convenience of facilities.

Properly Functioning Condition: (1) An element of the Fundamental of Rangeland Health for watersheds, and therefore a required element of State or regional standard and guidelines under 43 CFR § 4180.2(b). (2) Condition in which vegetation and ground cover maintain soil conditions that can sustain natural biotic communities. (3) Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid floodplain development; improve floodwater retention and groundwater recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and

support greater biodiversity. The functioning condition of riparian-wetland areas is influenced by geomorphic features, soil, water, and vegetation. (4) Uplands function properly when the existing vegetation and ground cover maintain soil conditions capable of sustaining natural biotic communities. The functioning condition of uplands is influenced by geomorphic features, soil, water, and vegetation.

Protest: An opportunity for a qualified party to seek an administrative review of a proposed decision in accordance with program-specific regulations. For example, a protest may be filed with the Director of the BLM for review of a proposed resource management plan or plan amendment (43 CFR 1610.5-2),or a proposed grazing decision may be protested for review by the authorized officer (43 CFR 4160.2).

Public Lands: As defined by Public Law 94-579 (Federal Land Policy and Management Act of 1976), lands and interest in land owned by the United States and administered by the Secretary of the Interior through BLM, regardless of how the United States acquired possession. In common usage, public lands may refer to all federal land no matter what agency manages it. Also see Acquired Public Lands.

Range Improvement: An authorized physical modification or treatment which is designed to improve production of forage; change vegetation composition; control patterns of use; provide water; stabilize soil and water conditions; restore, protect and improve the condition of rangeland ecosystems to benefit livestock, wild horses and burros, and fish and wildlife. The term includes, but is not limited to structures, treatment projects and use of mechanical devices or modifications achieved through mechanical means (43 CFR § 4100.0-5).

Rangeland: A kind of land on which the native vegetation, climax or natural potential consists predominantly of grasses, grasslike plants, forbs, or shrubs. Rangeland includes lands revegetated naturally or artificially to provide a non-crop plant cover that is managed like native vegetation. Rangeland may consist of natural grasslands, savannahs, shrublands, most deserts, tundra, alpine communities, coastal marshes, and wet meadows.

Rangeland Health: The degree to which the integrity of the soil and ecological processes of rangeland ecosystems are sustained. Rangeland health exists when ecological processes are functioning properly to maintain the structure, organization and activity of the system over time.

Reach: A relatively homogeneous section of a stream having a repetitious sequence of physical characteristics and habitat types.

Reasonable Administrative Access: Motorized route use is limited to completing BLM work or specific work completed by a permittee associated with an approved BLM right-of-way or permit.

Reasonably Foreseeable Action: Actions for which there are existing decisions, funding, formal proposals, or which are highly probable, based on known opportunities or trends.

Reasoned Choice: A choice based on a hard look at how the proposed action or alternatives respond to the purpose and need**.**

Reclamation: The main objectives of reclamation include the stabilization of the terrain, assurance of public safety, aesthetic improvement, and usually a return of the land to what, within the regional context, is considered to be a useful purpose. Revegetation, which is normally a component of land reclamation, may entail the establishment of only one or few species. Reclamation projects that are more ecologically based can qualify as rehabilitation or even restoration. Commonly used in the context of mined lands in North America and the UK, has an even broader application than rehabilitation.

Record of Decision: A document signed by a responsible official recording a decision that was preceded by the preparing of an environmental impact statement.

Recreation and Public Purpose Act of 1926 (44 Stat. 741, as amended; 43 U.S.C. 869 et seq.): An act of Congress that allows lease or acquisition of public land to be used for recreation or public purposes by local government entities (county or city governments) and nonprofit organizations.

Recreation Management Zones (RMZs): Areas within special recreation management areas (SRMAs) with a particular recreation management focus or resource challenges. See Special Recreation Management Areas (SRMAs) .

Recreation Opportunity Spectrum (ROS): A planning process that provides a framework for defining classes of outdoor recreation environments, activities, and experience opportunities. In ROS, the setting, activities, and opportunities for experiences are arranged along a spectrum of six classes: primitive; semi-primitive non-motorized; semi-primitive motorized; roaded natural; rural; and urban. The resulting ROS analysis defines specific geographic areas on the ground, each of which encompasses one of the six classes.

Rehabilitation: Emphasizes the reparation of ecosystem processes, productivity and services, whereas the goals of restoration also include the re-establishment of the pre-existing biotic integrity in terms of species composition and community structure.

Relinquishment: The voluntary and permanent surrender by an existing permittee or lessee, (with concurrence of any base property lienholder(s)), of their priority for a livestock forage allocation on public land (their preference) as well as their permission to use this forage (their grazing permit or lease), in whole or in part.

Research Natural Area (RNA): An area of critical environmental concern that is a physical or biological unit in which current natural conditions are maintained insofar as possible. In RNAs activities such as grazing and vegetation manipulation are prohibited unless they replace natural processes and contribute to protecting and preserving an area. Moreover, such recreation as camping and gathering plants is discouraged.

Resource Advisory Councils (RACs): Advisory councils appointed by the Secretary of the Interior and consisting of representatives of major public land interest groups (e.g., commodity industries, recreation, environmental, and local area interests) in a state or smaller area. RACs advise BLM, focusing on a full array of multiple use public land issues. RACs also help develop fundamentals for rangeland health and guidelines for livestock grazing.

Resource Management Plan (RMP): (also known as Land Use Plan or Management Framework Plan). A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of the Federal Land Policy and Management Act of 1976, as amended, P.L. 94-579, 90 Stat. 2743; an assimilation of land use plan-level decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed.

Restoration: The process of assisting the recovery and management of ecological integrity. Ecological integrity includes a critical range of variability in biodiversity, ecological processes and structures, regional and historical context, and sustainable cultural practices.

Right-of-Way: A permit or easement that authorizes the use of lands for certain specified purposes, commonly for pipelines, roads, telephone lines, or powerlines.

Riparian: Pertaining to or situated on or along the bank of streams, lakes, and reservoirs.

Riparian Area: A form of wetland transition between permanently saturated wetlands and upland areas. Riparian areas exhibit vegetation or physical characteristics that reflect the influence of permanent surface or subsurface water. Typical riparian areas include lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels. Excluded are ephemeral streams or washes that lack vegetation and depend on free water in the soil.

Road: (From BLM 9100 manual) …a transportation facility used primarily by vehicles having four or more wheels, documented as such by the owner, and maintained for regular and continuous use.

Road and Route Types:
Primary Road - A regularly maintained route, paved or unpaved, wide enough for at least two vehicles to pass. Provides access between two major points. Serves a large area with many routes of lesser quality branching from it.

Secondary Road - Paved or unpaved, a regularly maintained one- to two-lane route with routes of lesser quality branching from it. Connects primary roads and major points.

Tertiary Road - Generally a two-track route that may or may not be usable by a two-wheel drive vehicle. Does not receive formal maintenance.

Single-Track Route - A route up to 1/2-meter-wide upon which all-terrain vehicles or trucks are not allowed.

Way - A road-like feature used by vehicles having four or more wheels but not declared a road by the owner. A way receives no maintenance to guarantee regular and continuous use.

Spur - A route that exists for a specific purpose, such as access to a specific use or feature. Uses can be recreational or commercial. Features include campsites, mines, or range developments. A spur route is connected to another road or route type.

Reclaiming or Reclaimed (route) - A route that has had very little or no use, so that there is woody vegetation growing in the route that would be damaged by the passage of a vehicle. Erosion or vegetation may block the route and could damage a vehicle or cause it to get stuck.

Rock Crawling: The use of specialized motor vehicles for crossing difficult terrain. Also known as extreme technical trail driving.

Route: Any motorized, non-motorized, or mechanized transportation corridor. Corridor may either be terrestrial or waterway. "Roads" and "Trails" are considered routes.

Runoff: The portion of a drainage area's precipitation that flows from the area.

Saleable Minerals: Common variety minerals on public lands, such as sand and gravel, which are used mainly for construction and are disposed of by sales or special permits to local governments.

Scoping: The process by which the BLM solicits internal and external input on the issues and effects that will be addressed, as well as the degree to which those issues and effects will be analyzed in the NEPA document. Scoping is one form of public involvement in the NEPA process. Scoping occurs early in the NEPA process and generally extends through the development of alternatives (the public comment periods for EIS review are not scoping). Internal scoping is simply the use of BLM staff to decide what needs to be analyzed in a NEPA document. External scoping, also known as formal scoping, involves notification and opportunities for feedback from other agencies, organizations and the public.

Section 7 Consultation: The requirement of Section 7 of the Endangered Species Act that all federal agencies consult with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service if a proposed action might affect a federally listed species or its critical habitat.

Sediment: Solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water. Sediment includes chemical and biochemical precipitates and decomposed organic material such as humus.

Sedimentation: The process or action of depositing sediment.

Sensitive Species: All species that are under status review, have small or declining populations, live in unique habitats, or need special management. Sensitive species include threatened, endangered, and proposed species as classified by the U.S. Fish and Wildlife Service.

Short-term Impacts: Impacts that occur during or after the activity or action.

Significant Impact: Effects of sufficient context and intensity that an environmental impact statement is required. The CEQ regulations at 40 CFR 1508.27(b) include ten considerations for evaluating intensity.

Significant Paleontological Resource (syn. **Significant Fossil Resource**) – Any paleontological resource that is considered to be of scientific interest, including most vertebrate fossil remains and traces, and certain rare or unusual invertebrate and plant fossils. A significant paleontological resource is considered to be scientifically important because it is a rare or previously unknown species, it is of high quality and well-preserved, it preserves a previously unknown anatomical or other characteristic, provides new information about the history of life on earth, or has identified educational or recreational value. Paleontological resources that may be considered to not have paleontological significance include those that lack provenience or context, lack physical integrity because of decay or natural erosion, or that are overly redundant or are otherwise not useful for research.

Snag Trees: Standing dead or dying tree, often missing a top or small branches. Typically provides nesting substrate for cavity and platform nesting species and foraging habitat for insectivorous species.

Special Recreation Management Areas (SRMAs): Areas of intensive recreation use that will be managed to retain recreation opportunities while protecting other resources and reducing user conflicts. See Recreation Management Zones (RMZs) .

Special Recreation Permit (SRP): An authorization that allows for specific nonexclusive permitted recreational uses of the public lands and related waters. SRPs are issued to control visitor use, protect recreational and natural resources, provide for the health and safety of visitors, and accommodate commercial recreational uses.

Special Status Species: Plant or animal species listed as threatened, endangered, candidate, or sensitive by the Federal Government or state governments.

Type 1- species that are listed as threatened, endangered, or candidates under the ESA

Type 2- species that are rangewide or globally imperiled species with a high risk of endangerment

Type 3- species that are rangewide or globally imperiled species with a moderate risk of endangerment

Type 4- species of concern, including species that are generally rare in Idaho with currently low endangerment threats (BLM 2011B).

Split-Estate: Land whose surface rights and mineral rights are owned by different entities.

Stabilization (Soil): Chemical or mechanical treatment to increase or maintain the stability of a mass of soil or otherwise improve its engineering properties.

State Historic Preservation Officer (SHPO): The official within and authorized by each state at the request of the Secretary of the Interior to act as liaison for the National Historic Preservation Act.

State Implementation Plan (SIP): A detailed description of the programs a state will use to carry out its responsibilities under the Clean Air Act. SIPs are collections of the regulations used by a state to reduce air pollution. The Clean Air Act requires that the Environmental Protection Agency approve each SIP.

Streambank: The portion of a stream channel that restricts the sideward movement of water at normal water levels. The streambank's gradient often exceeds 45 ° and exhibits a distinct break in slope from the stream bottom.

Streambank Stability: A streambank's relative resistance to erosion, which is measured as a percentage of alteration to streambanks.

Substantive Comment: A comment that does one or more of the following: questions, with reasonable basis, the accuracy of information in the EIS or EA; questions, with reasonable basis or facts, the adequacy of, methodology for, or assumptions used for the environmental analysis; presents reasonable alternatives other than those presented in the EIS or EA; or prompts the BLM to consider changes or revisions in one or more of the alternatives.

Subsurface: Of or pertaining to rock or mineral deposits which generally are found below the ground surface.

Surface Disturbance: Any action created through mechanized or mechanical means that would cause soil mixing or result in alteration or removal of soil or vegetation and expose the mineral soil to erosive processes. Used in the literal context of actual, physical disturbance and movement or removal of the land surface and vegetation.

Terrestrial Species: Ground-dwelling plants and animals.

Threatened Species: Any plant or animal species likely to become endangered within the foreseeable future throughout all or a part of its range and designated by the U.S. Fish and Wildlife Service under the Endangered Species Act. Also see Endangered Species .

Turbidity: Cloudiness of water measured by how deeply light can penetrate it from the surface. Highly turbid water is often called "muddy" although all kinds of suspended particles contribute to turbidity.

Unauthorized Use: Any use of the public lands not authorized or permitted.

Understory: Plants growing under the canopy of other plants. Understory usually refers to grasses, forbs, and low shrubs under a tree or brush canopy. Also see Overstory.

Ungulates: Hoofed animals including ruminants but also horses, tapirs, elephants, rhinoceroses, and swine.

Uplands: Lands at higher elevations than the alluvial plain or low stream terrace; all lands outside the riparian-wetland and aquatic zones.

Urban Interface (Wildland-Urban Interface): The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetation. This interface creates conflicts and complicates fighting wildfires and conducting prescribed burns, as well as all other natural resource management activities.

Utilization (Forage): The percentage of forage that has been consumed by livestock, wild horses and burros, wildlife and insects during a specified period. The term is also used to refer to the pattern of such use.

Valid Existing Rights: Locatable mineral development rights that existed when the Federal Land Policy and Management Act (FLPMA) was enacted on October 21, 1976. Some areas are segregated from entry and location under the Mining Law to protect certain values or allow certain uses. Mining claims that existed as of the effective date of the segregation may still be valid if they can meet the test of discovery of a valuable mineral required under the Mining Law. Determining the validity of mining claims located on segregated lands requires BLM to conduct a valid existing rights determination.

Vegetation Structure: The composition of an area's vegetation--plant species, growth forms, abundance, vegetation types, and spatial arrangement.

Vegetation Treatments: Treatments that improve vegetation condition or production. Such treatments may include seedings; prescribed burning; or chemical, mechanical, and biological plant control.

Vegetation Type: A plant community with distinguishable characteristics.

Viability: The capability of living, developing, growing, or germinating under favorable conditions.

Visibility: A sensitive indicator, which means that small changes in concentrations of visibility-impairing pollutants could affect visibility.

Viewshed: The entire area visible from a viewpoint.

Visitor Day: 12 visitor hours, which may be aggregated continuously, intermittently, or simultaneously by one or more people.

Visual Resource Management (VRM): The planning, design, and implementing of management objectives to provide acceptable levels of visual impacts for all BLM resource management activities.

Visual Resource Management (VRM) Classes: Classes with specific objectives for maintaining or enhancing scenic quality including the kinds landscape modifications that are acceptable to meet the objectives.

Class I - (Preservation) provides for natural, ecological changes only. This class includes wilderness areas, some natural areas, some wild and scenic rivers, and other similar sites where landscape modification should be restricted.

Class II - (Retention of the landscape character) includes areas where changes in any of the basic elements (form, line, color, or texture) caused by management activities should not be evident in the characteristic landscape.

Class III - (Partial retention of the landscape character) includes areas where changes in the basic elements caused by management activities may be evident in the characteristic landscape. But the changes should remain subordinate to the existing landscape character.

Class IV - (Modification of the landscape character) includes areas where changes may subordinate the original composition and character. But the changes should reflect what could be a natural occurrence in the characteristic landscape.

Watershed Condition (Watershed Health): The comparison of watershed processes to normal or expected measurements of properties such as soil cover, erosion rate, runoff rate, and

groundwater table elevation; an assessment or categorization of an area by erosion conditions, erosion hazards, and the soil moisture/temperature regime.

Watershed Function: The combination of processes attributed to watersheds as part of the hydrologic cycle, including interception of rain by plants, rocks, and litter; surface storage by the soil; groundwater storage; stream channel storage; soil evaporation; plant transpiration; and runoff. These processes affect the following properties of the watershed: runoff rate, water infiltration rate, soil building rate, soil erosion rate, groundwater recharge rate, groundwater discharge rate, water table elevation, and surface water discharge. These properties in turn affect plant communities through soil attributes, including soil parent material, soil moisture, and nutrients; stream and rivers through flooding duration and magnitude, as well as sediment load, which structures the dimension, pattern, and profile of channels; and lakes and reservoirs through sedimentation and nutrient input.

Way: See Road and Route Types.

Weed: Any plant that interferes with management objectives. A weed may be native or non-native, invasive or passive, or non-noxious.

Wetland: An area that is inundated or saturated by surface or ground water often and long enough to support and that under normal circumstances supports a prevalence of vegetation typically adapted for life in saturated soil. Wetlands include marshes, shallows, swamps, lake shores, bogs, muskegs, wet meadows, estuaries, cienegas, and riparian areas.

Wild and Scenic River Corridor: See National Wild and Scenic River System.

Wilderness Characteristics: BLM Instruction Memorandum 2003-275 Change 1 defines Wilderness Characteristics as, "Features of the land associated with the concept of wilderness that may be considered in land use planning when BLM determines that those characteristics are reasonably present, of sufficient value (condition, uniqueness, relevance, importance) and need (trend, risk), and are practical to manage.

Naturalness. Lands and resources exhibit a high degree of naturalness when affected primarily by the forces of nature and where the imprint of human activity is substantially unnoticeable. BLM has authority to inventory, assess, and/or monitor the attributes of the lands and resources on public lands, which, taken together, are an indication of an area's naturalness. These attributes may include the presence or absence of roads and trails, fences and other improvements; the nature and extent of landscape modifications; the presence of native vegetation communities; and the connectivity of habitats.

Solitude and Primitive/Unconfined Recreation. Visitors may have outstanding opportunities for solitude, or primitive and unconfined types of recreation when the sights, sounds, and evidence of other people are rare or infrequent, where visitors can be isolated, alone or secluded from others, where the use of the area is through non-motorized, non-mechanical means, and where no or minimal developed recreation facilities are encountered."

Wildfire: Unplanned ignition of a wildland fire (such as a fire caused by lightning, volcanoes, unauthorized and accidental human-caused fires) and escaped prescribed fires.

Wildland Fire: A general term describing any non-structure fire that occurs in the wildland.

Wildland-Urban Interface (WUI): A) an area within or adjacent to an at-risk community that is identified in recommendations to the Secretary in a community wildfire protection plan; or (B) in the case of any area for which a community wildfire protection plan is not in effect—(i) an area extending 1⁄2-mile from the boundary of an at-risk community; (ii) an area within 1 1⁄2 miles of the boundary of an at-risk community, including any land that—(I) has a sustained steep slope that

creates the potential for wildfire behavior endangering the at-risk community; (II) has a geographic feature that aids in creating an effective fire break, such as a road or ridge top; or (III) is in condition class 3, as documented by the Secretary in the project-specific environmental analysis; and (iii) an area that is adjacent to an evacuation route for an at-risk community that the Secretary determines, in cooperation with the at-risk community, requires hazardous fuel reduction to provide safer evacuation from the at-risk community. (Healthy Forests Restoration Act (HFRA), as amended 2018).

Wildlife: A broad term that includes birds, reptiles, amphibians, and non-domesticated mammals.

Withdrawal: Withholding an area of federal land from settlement, sale, location, or entry under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program; or transferring jurisdiction over an area of federal land, other than property governed by the Federal Property and Administrative Services Act, from one department, bureau, or agency to another department, bureau, or agency.

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Four Rivers Field Office Proposed Resource Management Plan and Final Environmental Impact Statement

Maps

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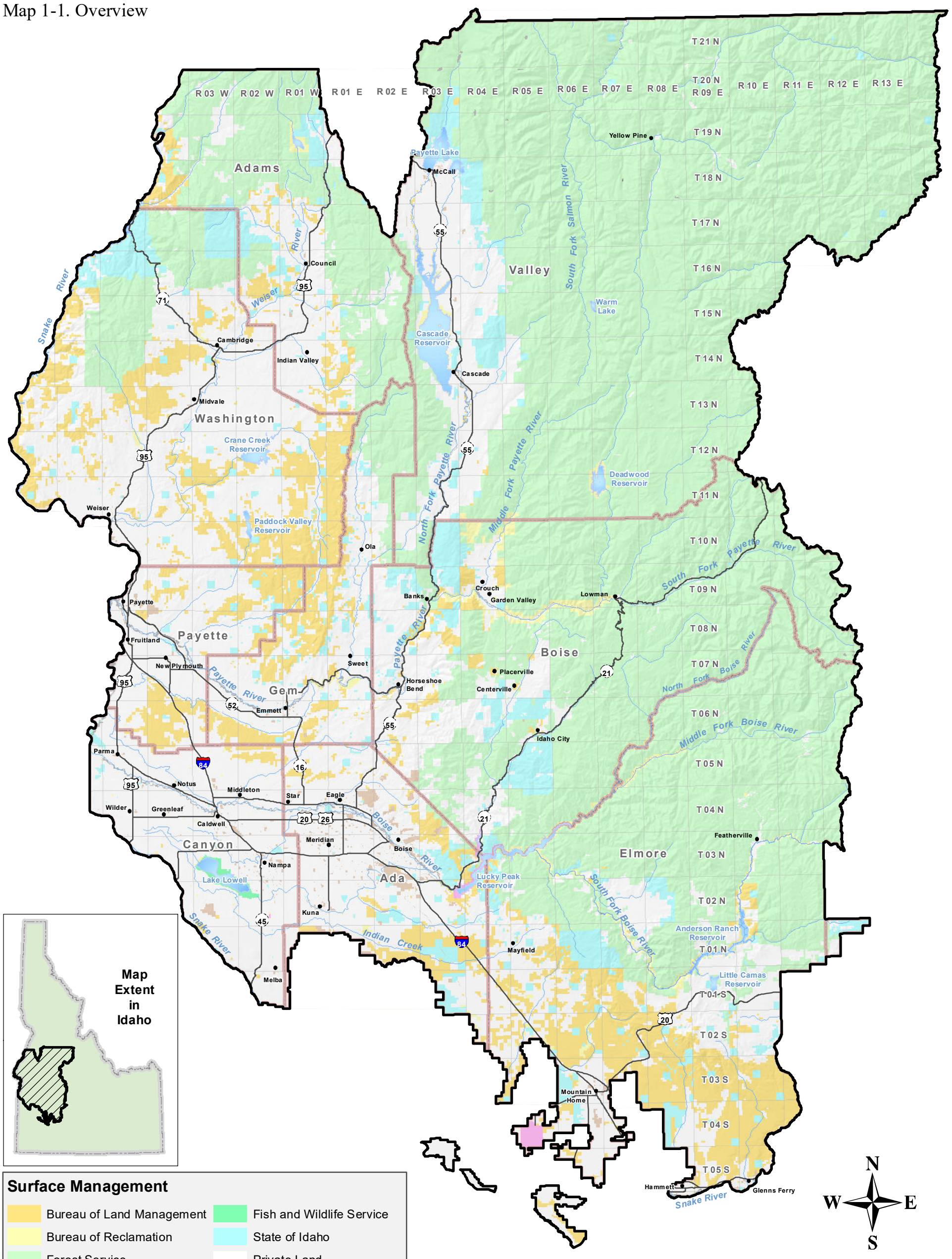
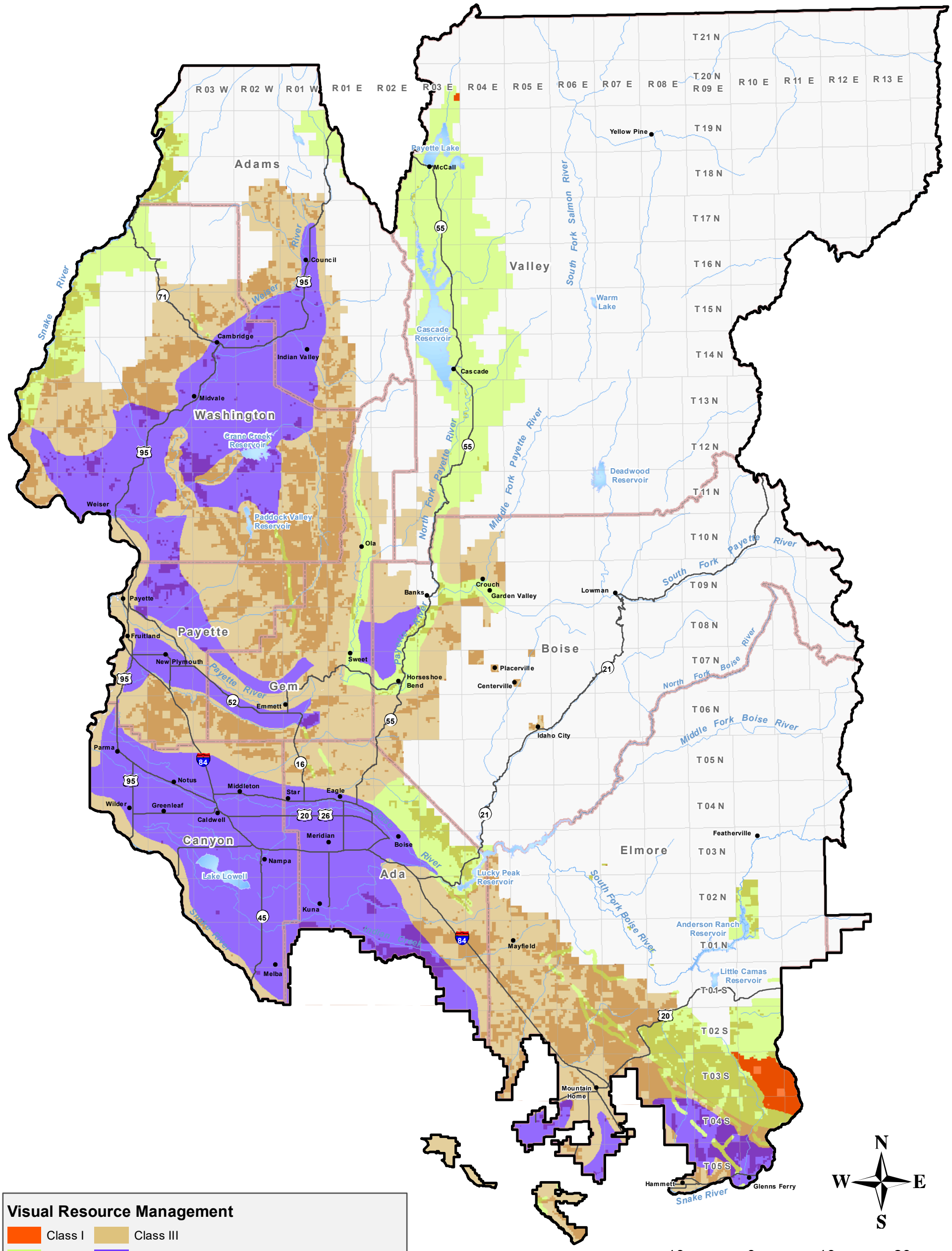
Map 1-1. Overview



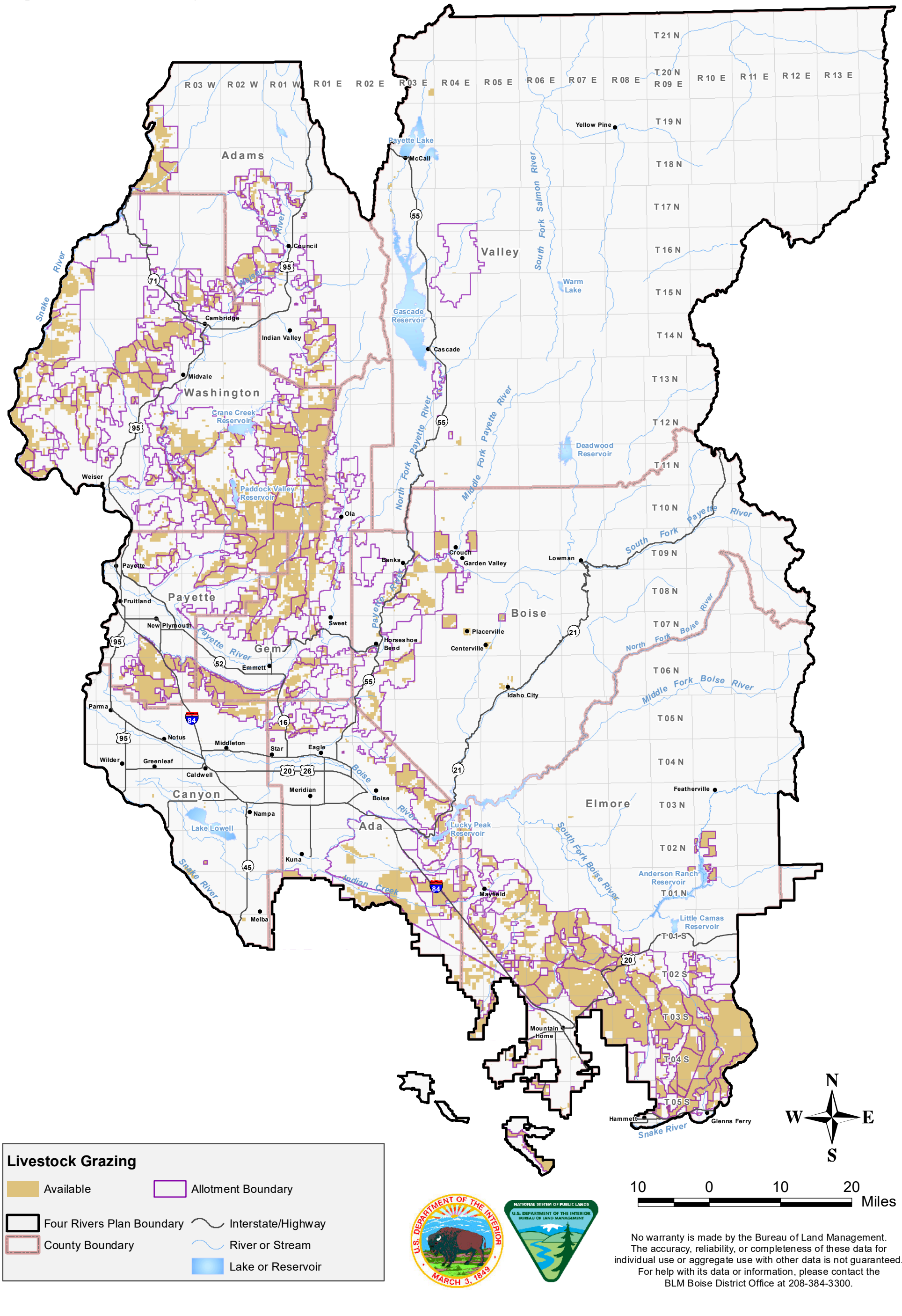
Map 2-1. Visual Resource Management



Visual Resource Management

- Class I
- Class II
- Class III
- Class IV
- Four Rivers Plan Boundary
- County Boundary
- BLM Managed Land
- Interstate/Highway
- River or Stream
- Lake or Reservoir

Map 2-2. Livestock Grazing

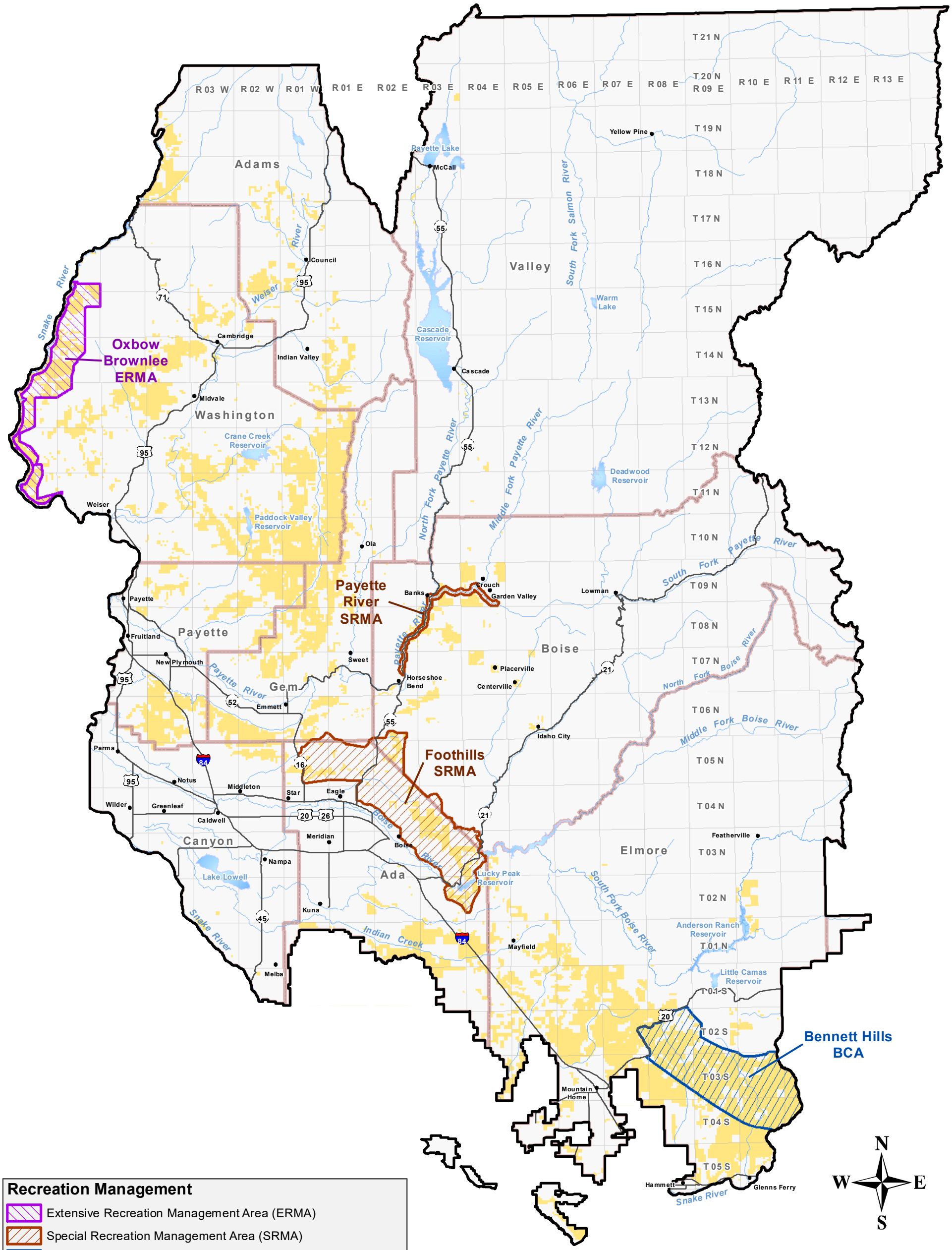


Livestock Grazing

- Available
- Allotment Boundary
- Four Rivers Plan Boundary
- Interstate/Highway
- County Boundary
- River or Stream
- Lake or Reservoir

No warranty is made by the Bureau of Land Management. The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed. For help with its data or information, please contact the BLM Boise District Office at 208-384-3300.

Map 2-3. Recreation Management



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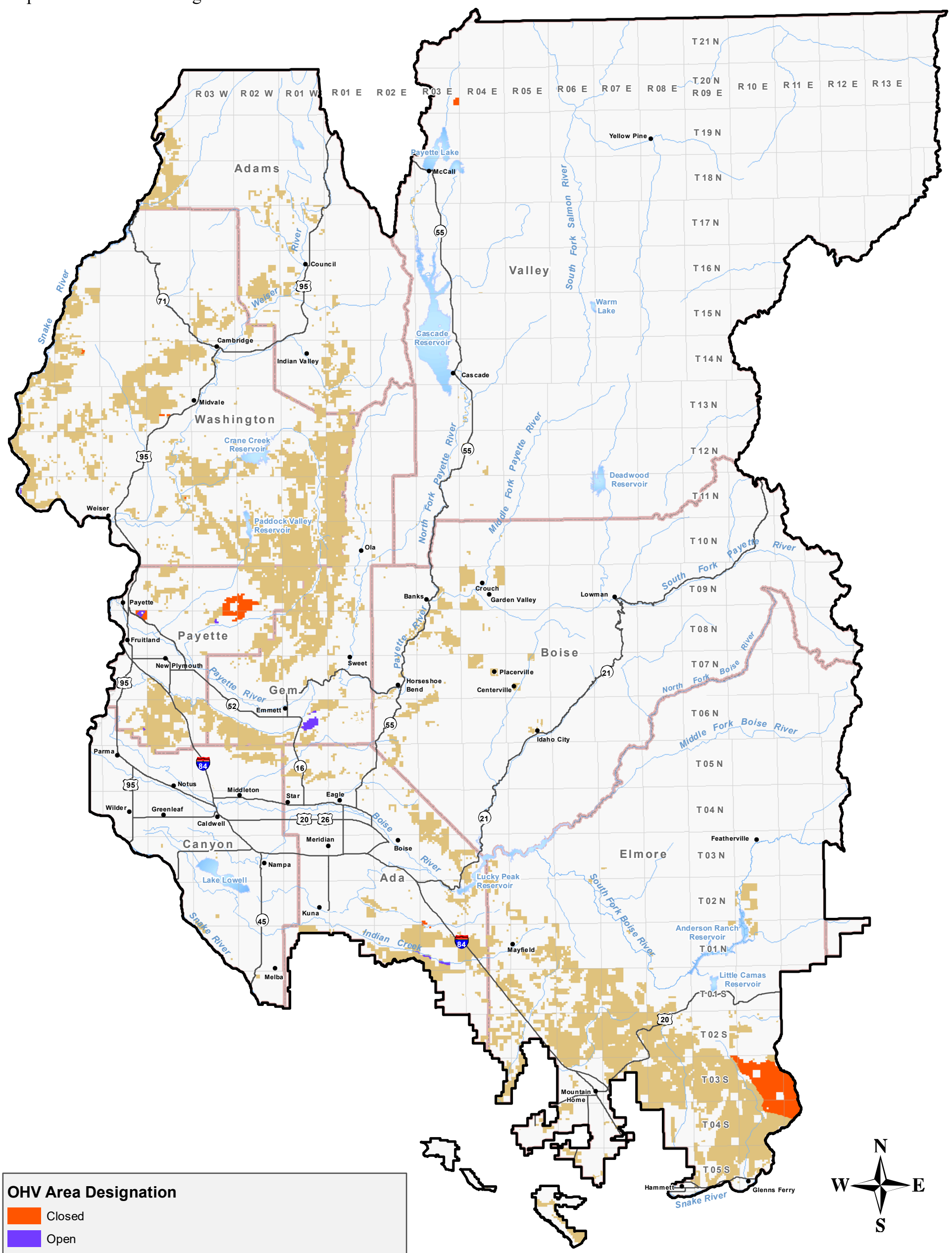
Map 2-4. OHV Area Designations



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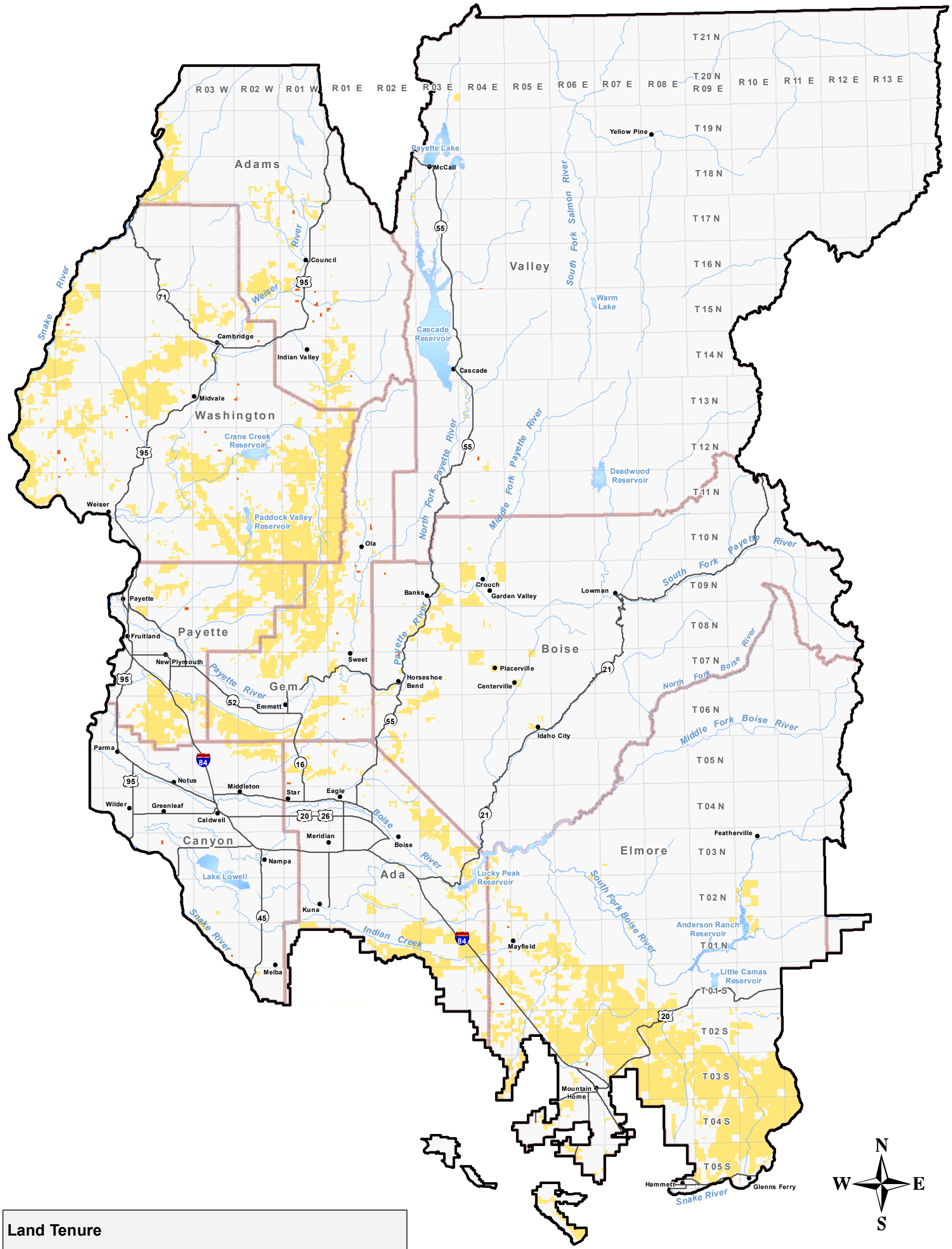
Map 2-5. Land Tenure



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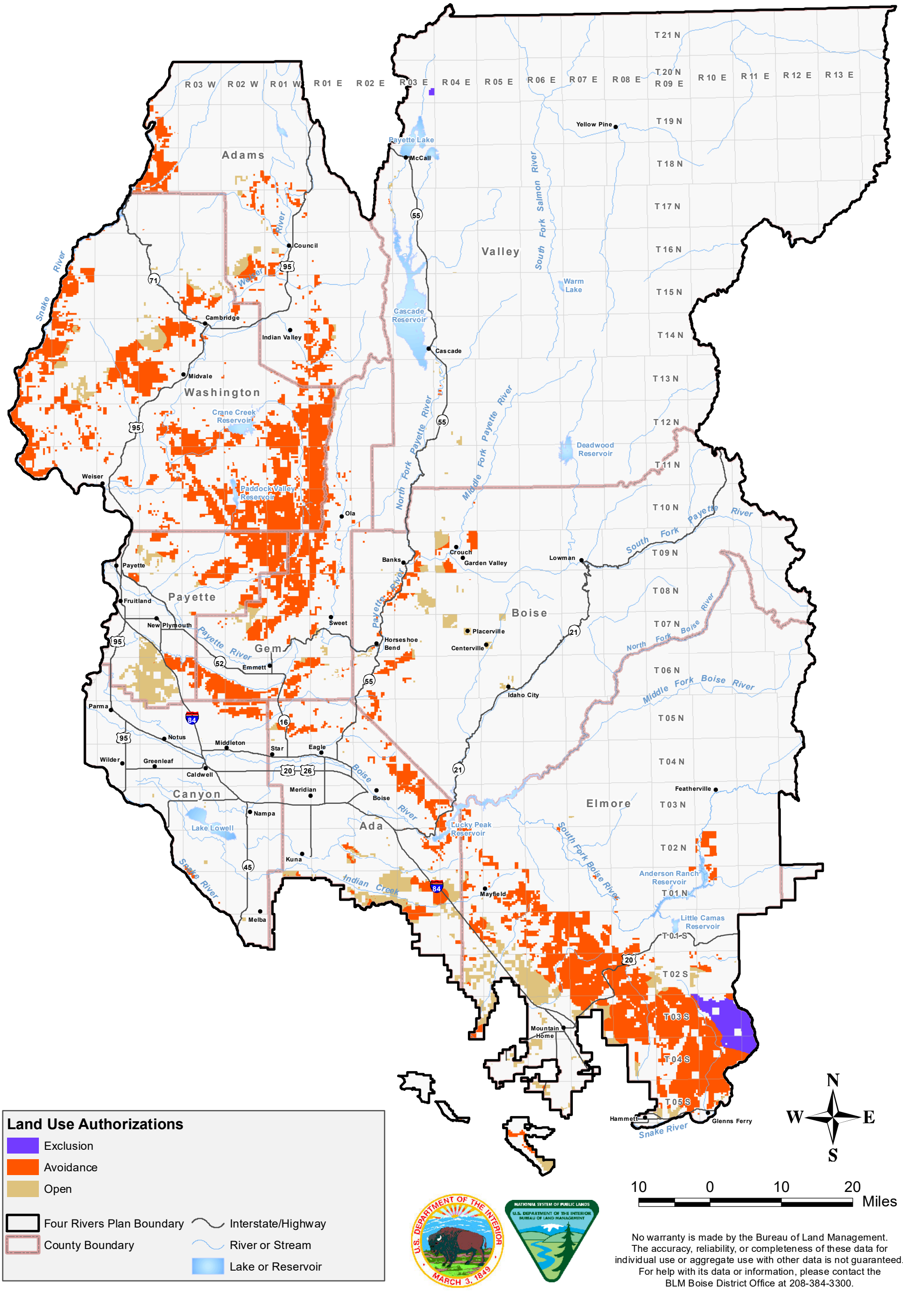
Map 2-6. Land Use Authorizations



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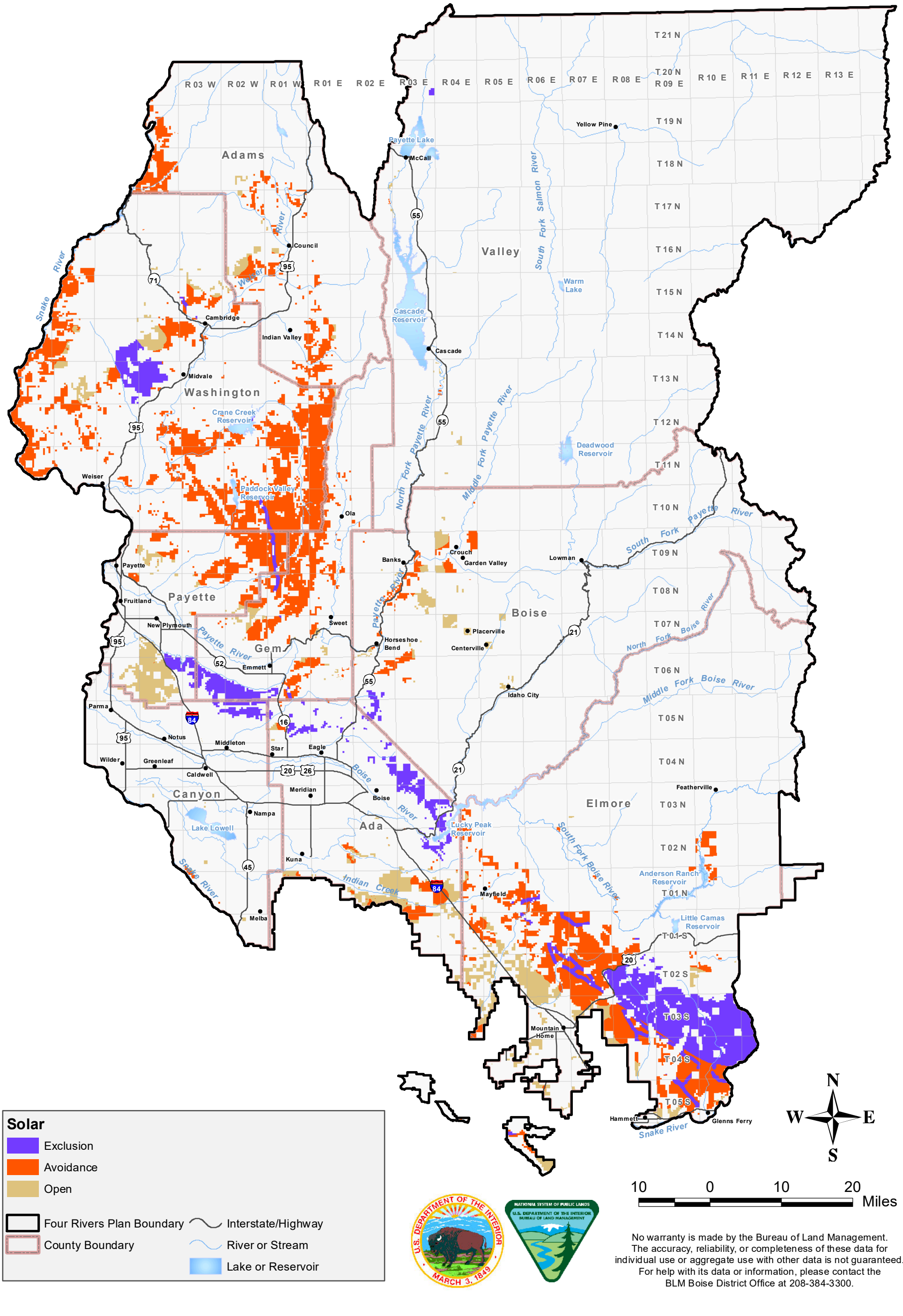
Map 2-7. Solar



Solar

- Exclusion
- Avoidance
- Open

- Four Rivers Plan Boundary
- County Boundary
- Interstate/Highway
- River or Stream
- Lake or Reservoir

N W E S

10 0 10 20 Miles

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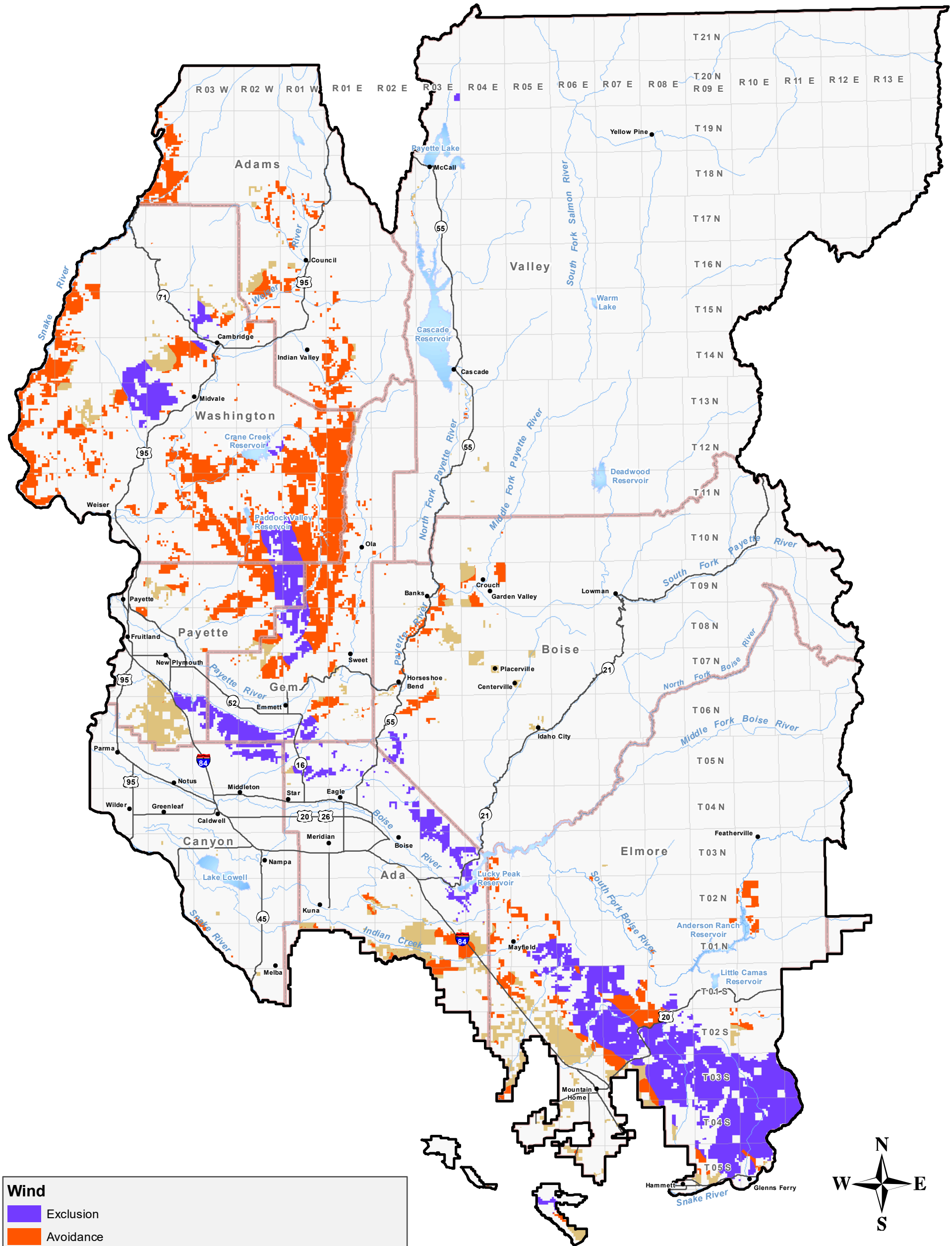
Map 2-8. Wind



Wind

- Exclusion
- Avoidance
- Open

- Four Rivers Plan Boundary
- County Boundary
- Interstate/Highway
- River or Stream
- Lake or Reservoir

N W E S

10 0 10 20 Miles

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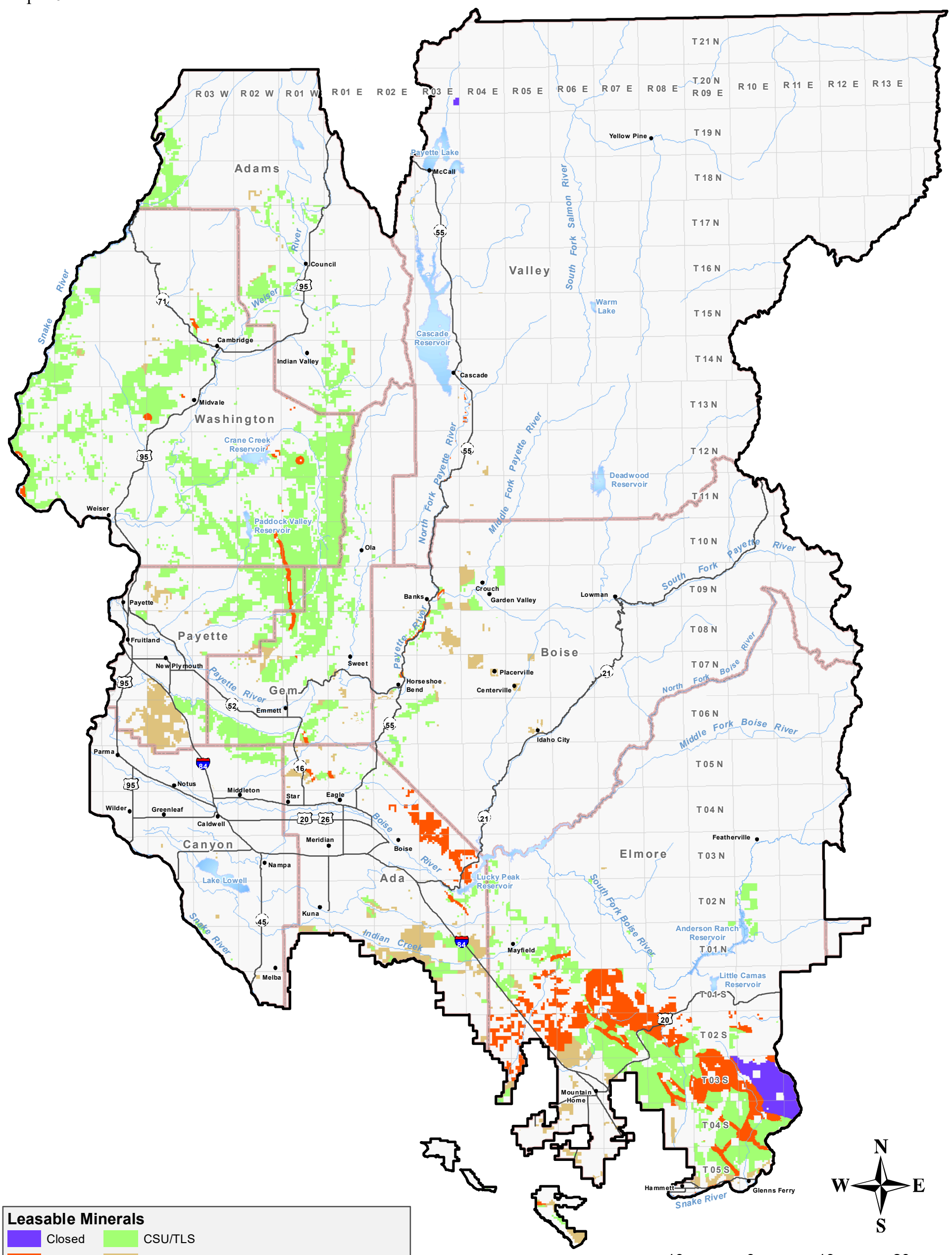
Map 2-9. Leasable Minerals



Leasable Minerals

- Closed
- CSU/TLS
- NSO
- Open
- Four Rivers Plan Boundary
- County Boundary
- Interstate/Highway
- River or Stream
- Lake or Reservoir

N W E S

10 0 10 20 Miles

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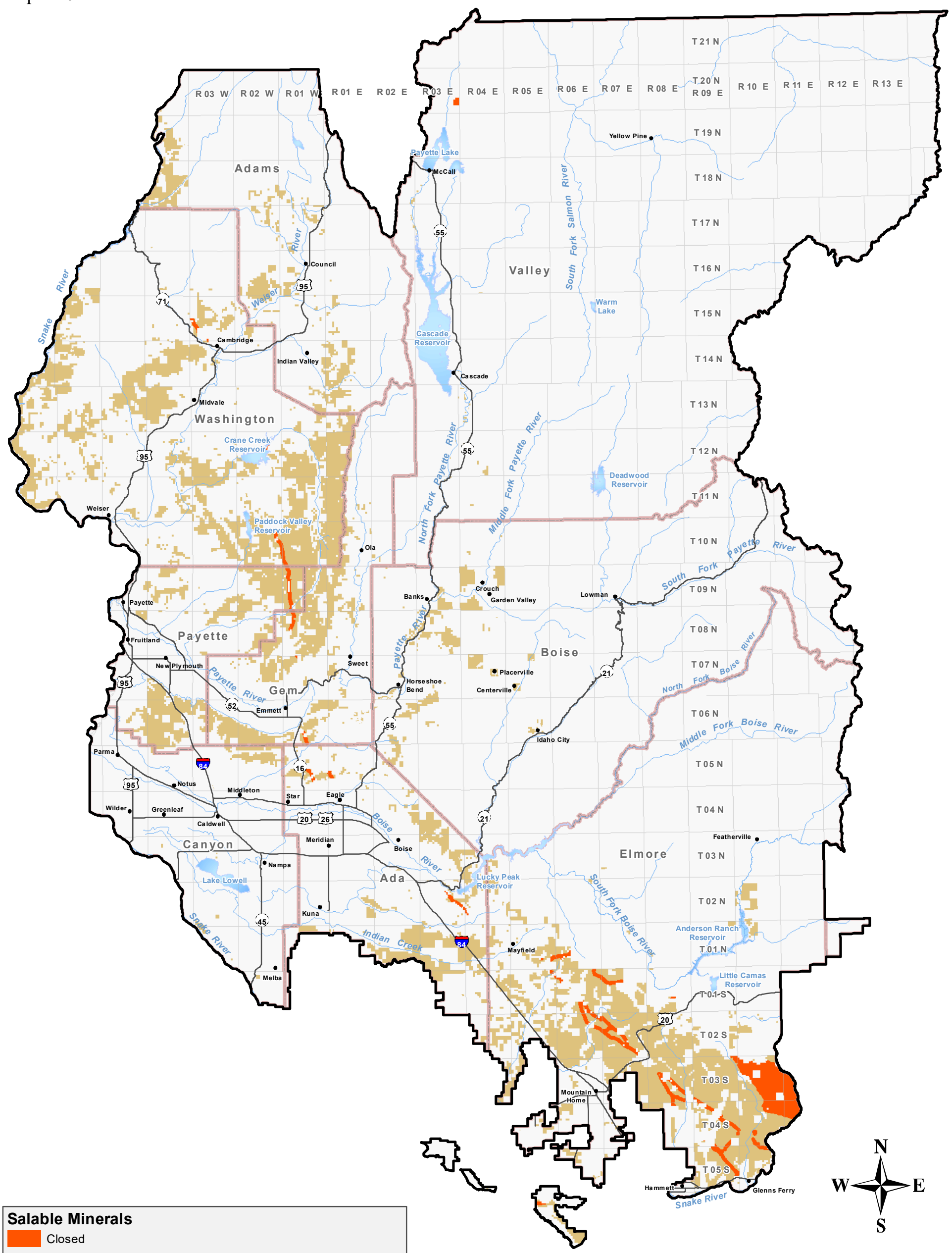
Map 2-10. Salable Minerals



Salable Minerals

- Closed
- Open
- Four Rivers Plan Boundary
- County Boundary
- Interstate/Highway
- River or Stream
- Lake or Reservoir

N W E S

10 0 10 20 Miles

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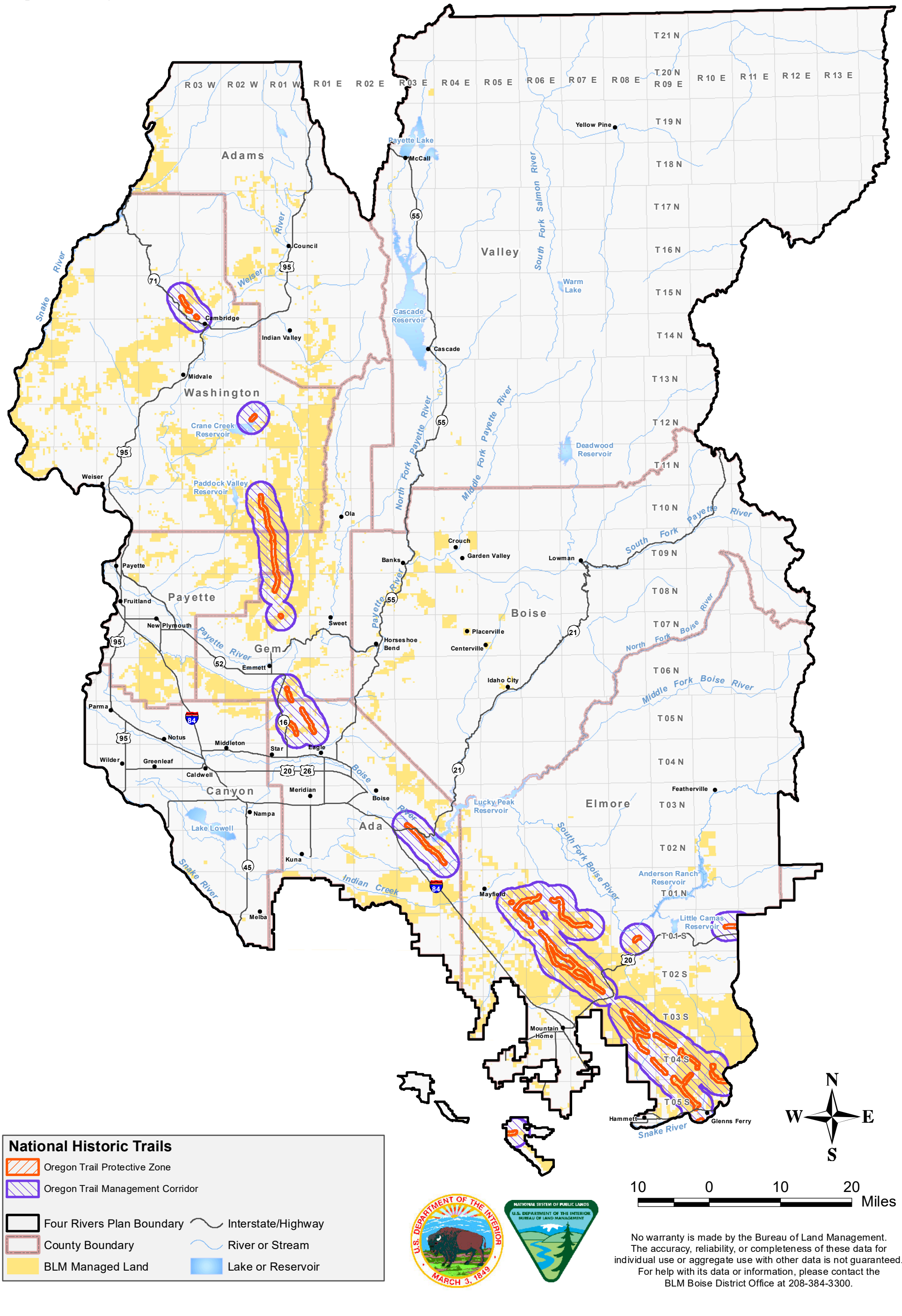
Map 2-11. Oregon Trail



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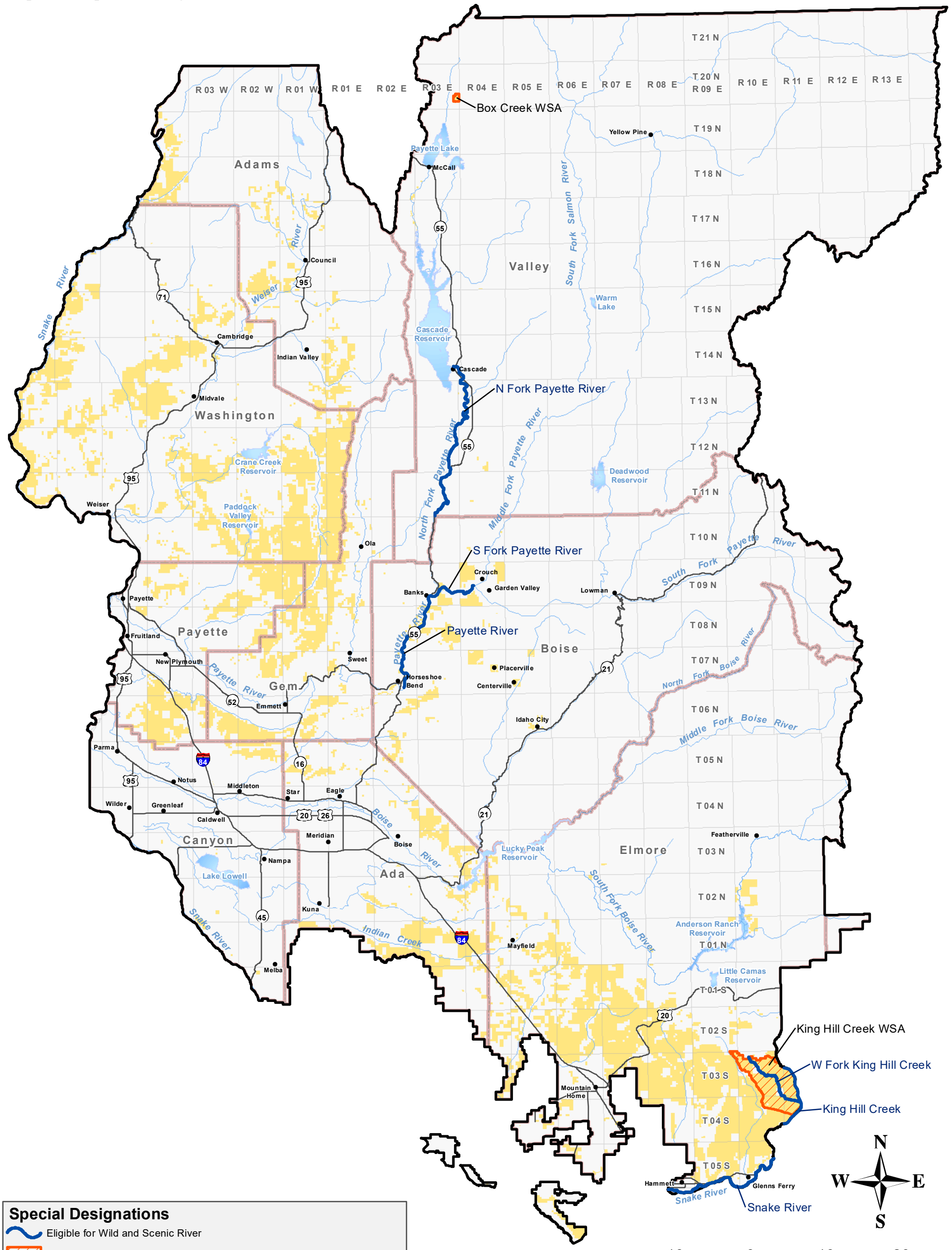
Map 2-12. Special Designations



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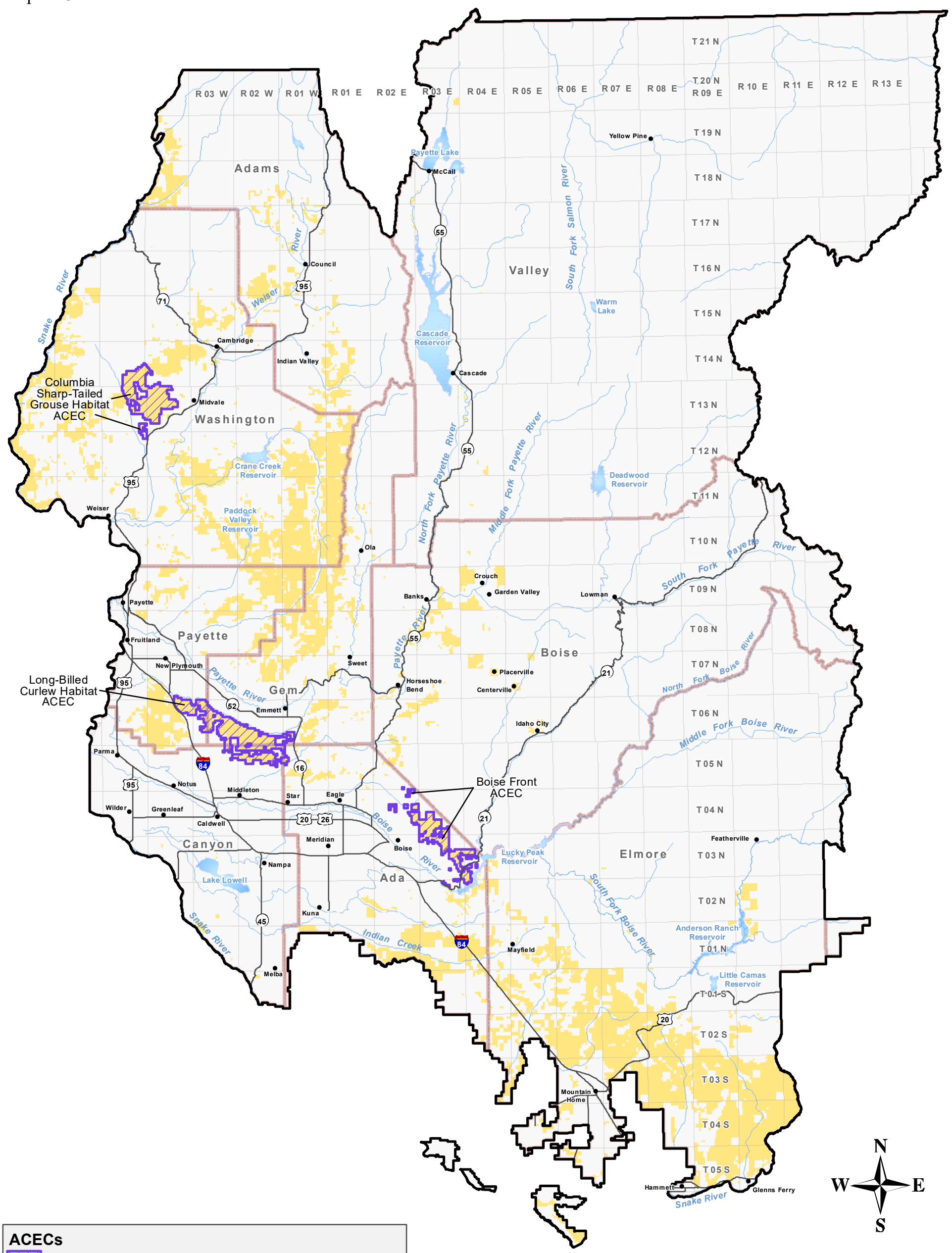
Map 2-13. ACECs



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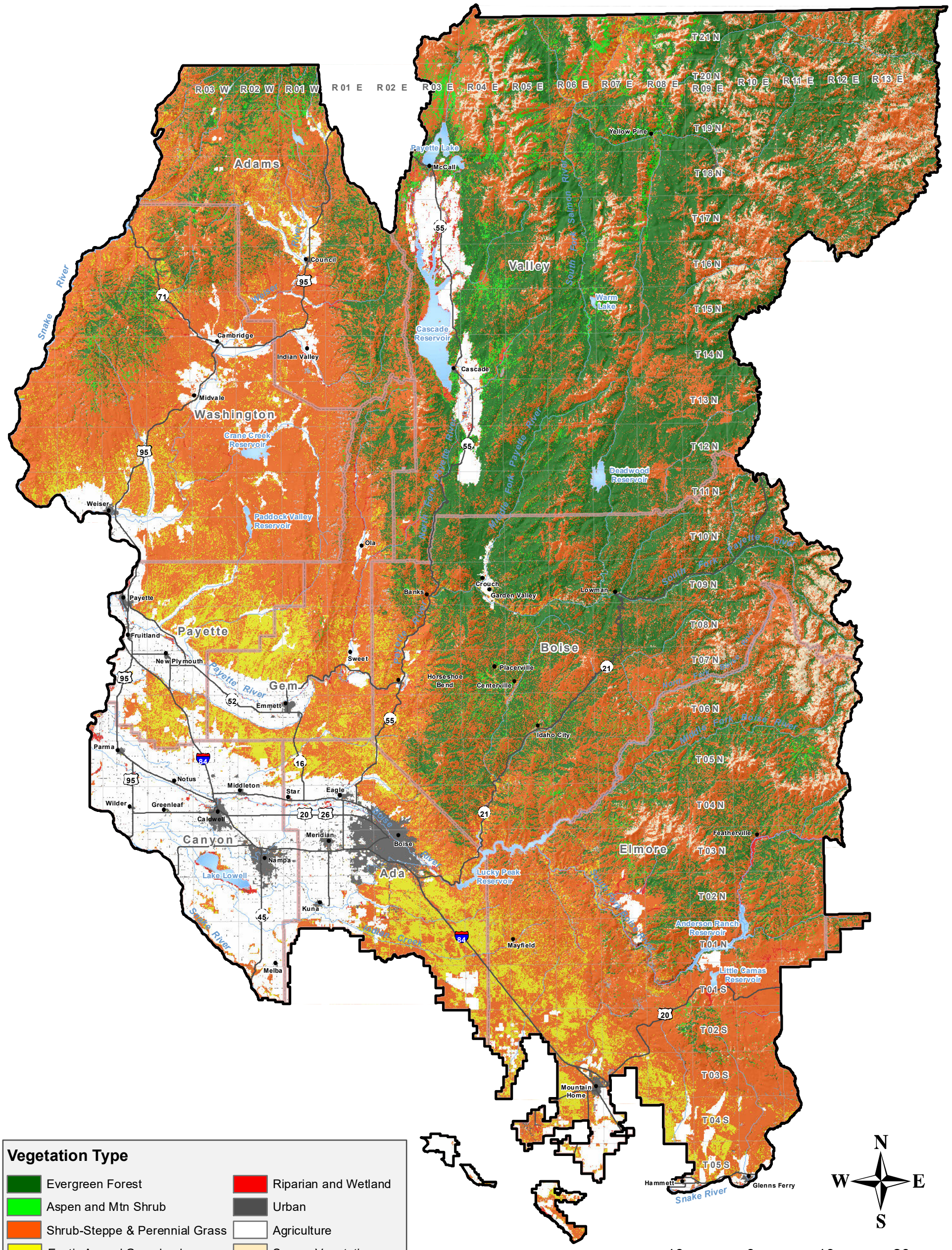
Map 3-1. Land Cover



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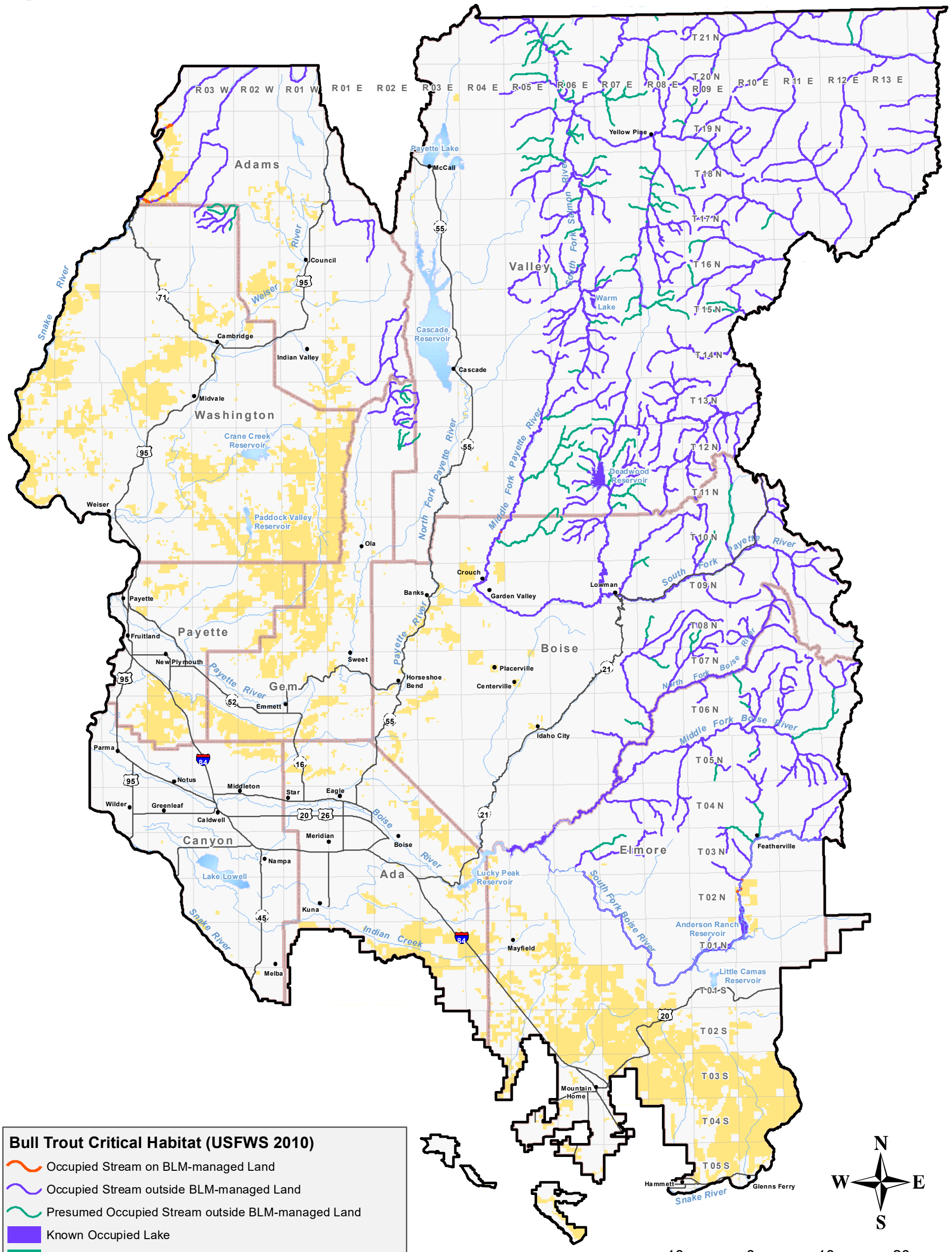
Map 3-2. Bull Trout Critical Habitat



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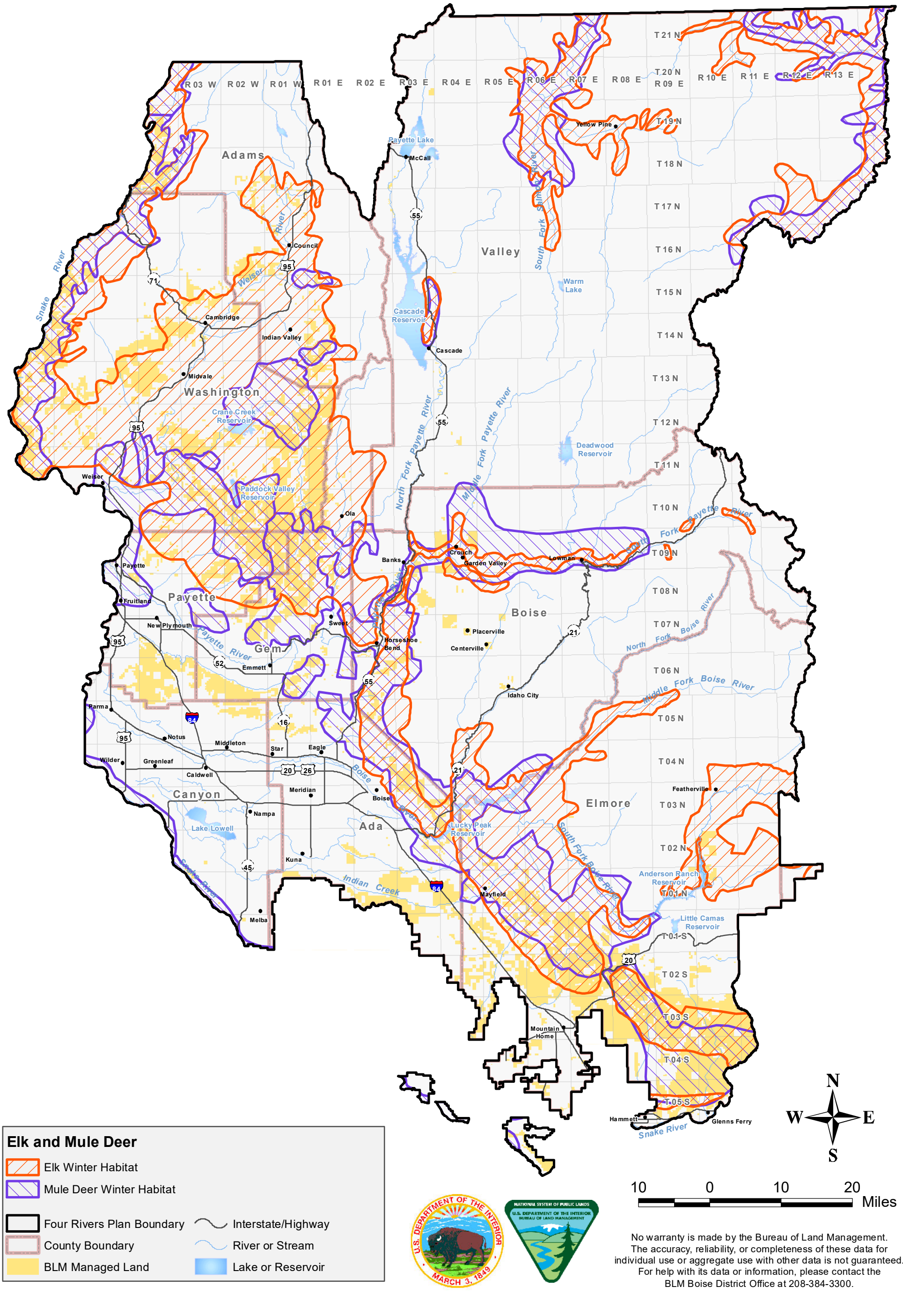
Map 3-3. Elk and Mule Deer Winter Habitat



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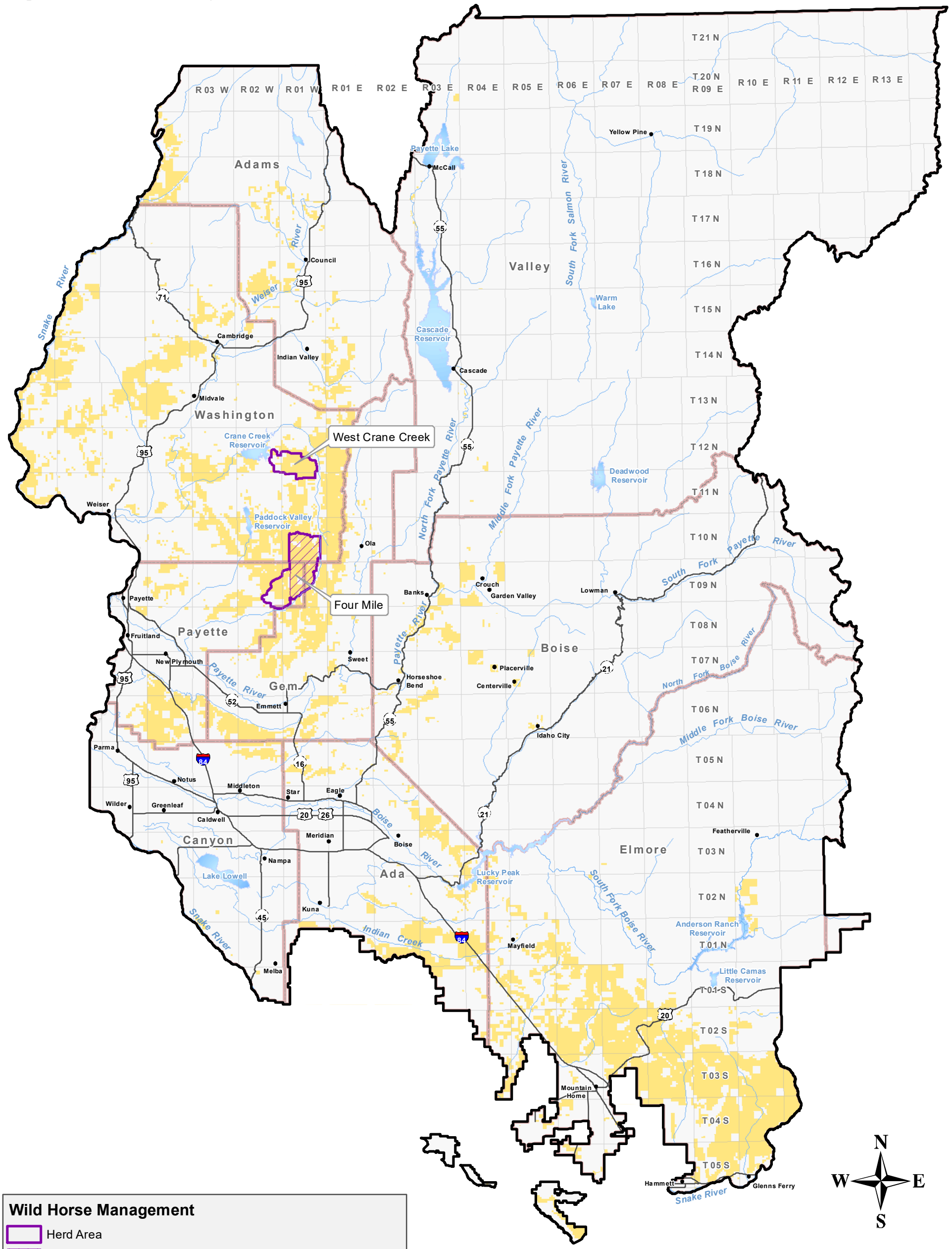
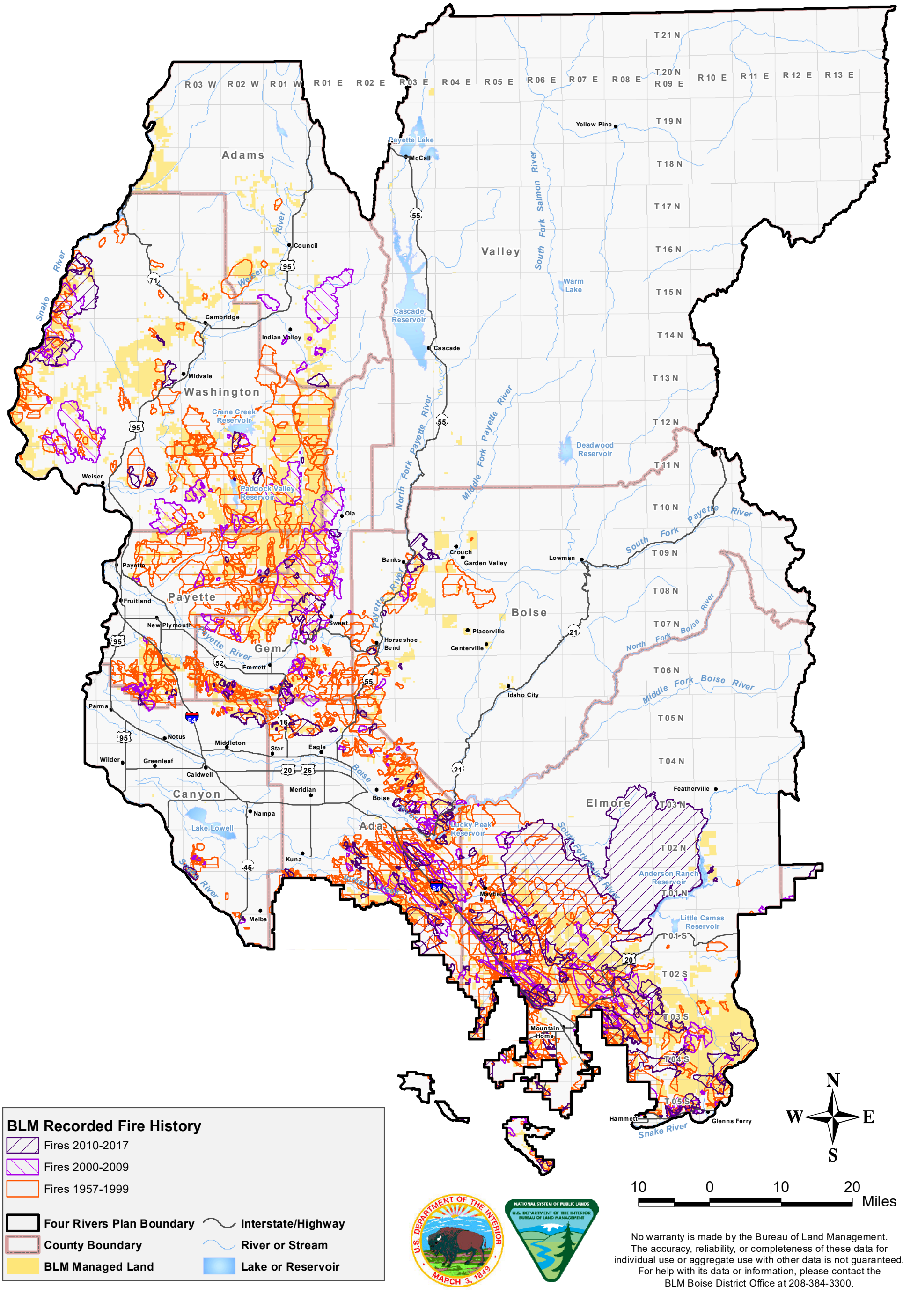
Map 3-4. Wild Horse Management



Wild Horse Management

- Herd Area
- Herd Management Area
- Four Rivers Plan Boundary
- County Boundary
- BLM Managed Land
- Interstate/Highway
- River or Stream
- Lake or Reservoir

Map 3-5. Fire History



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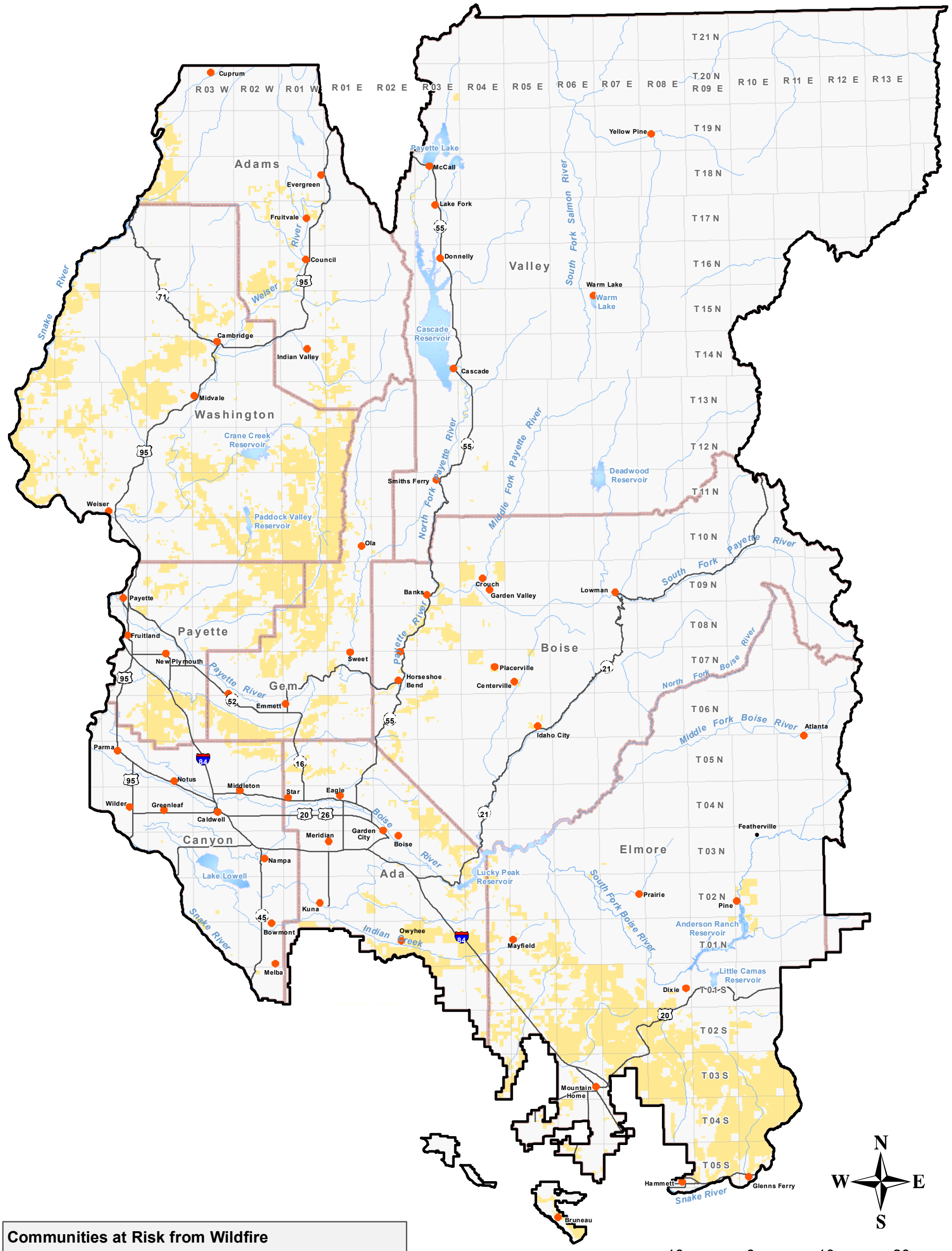
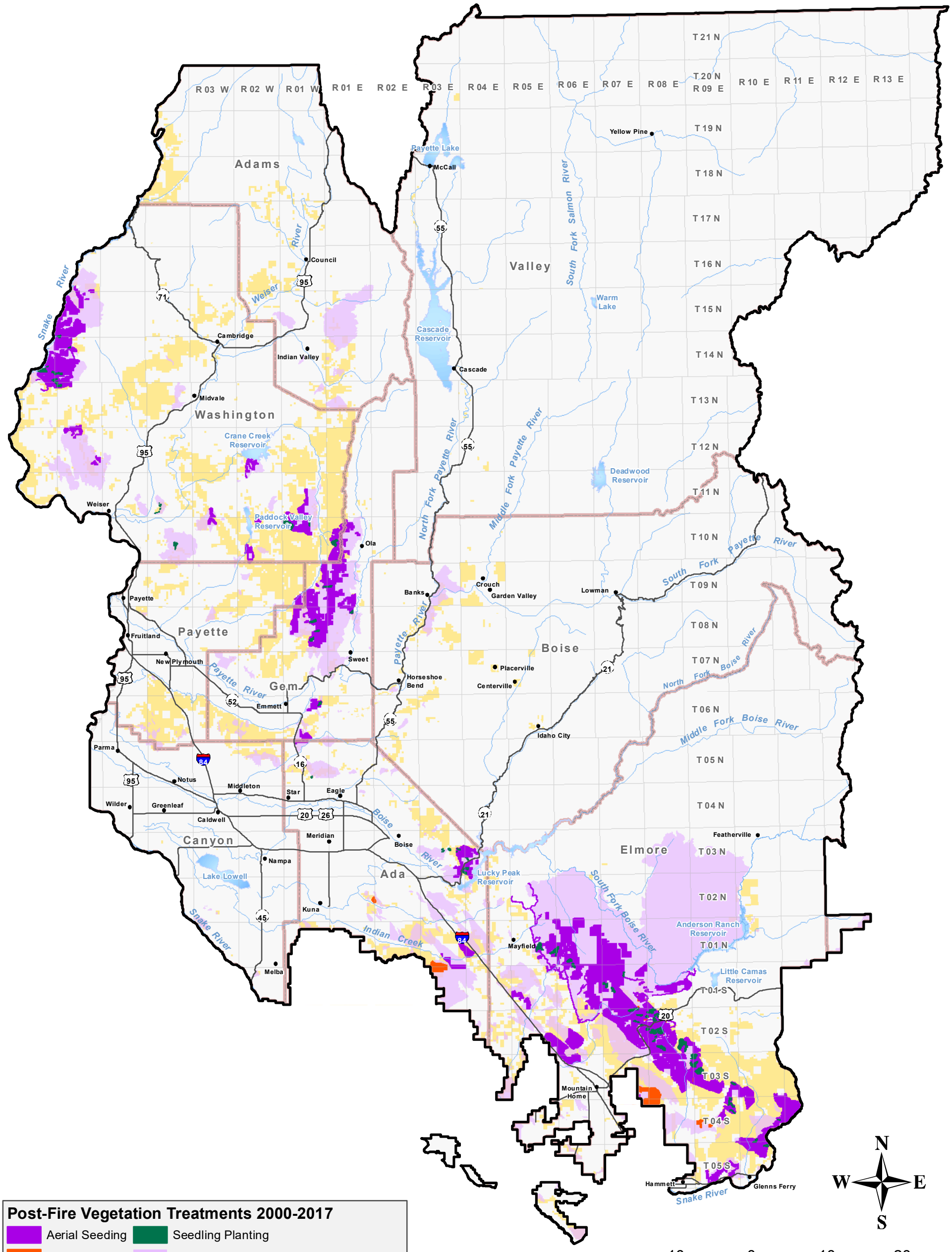
Map 3-6. Communities at Risk from Wildfire



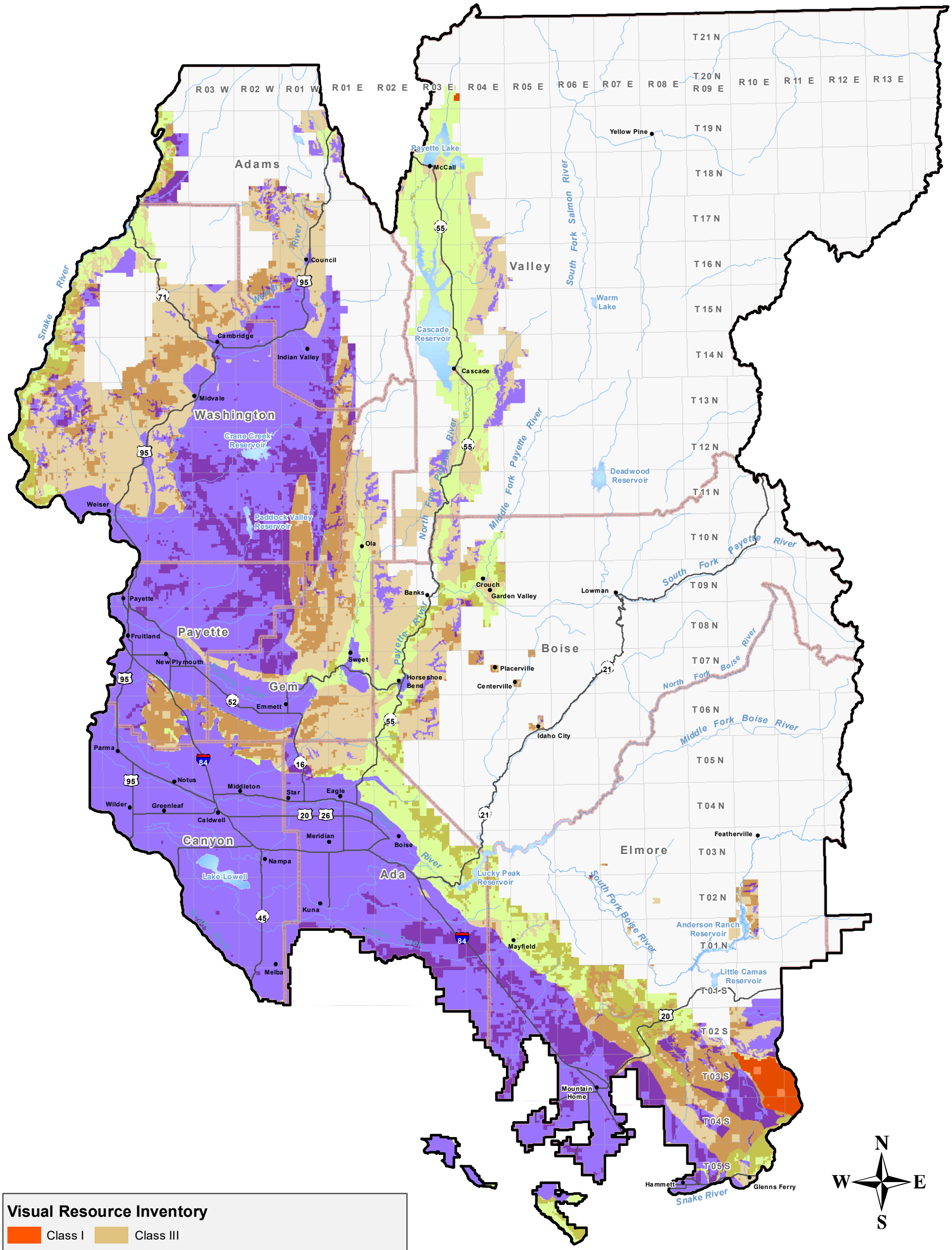
Map 3-7. Post-Fire Vegetation Treatments



Post-Fire Vegetation Treatments 2000-2017

- Aerial Seeding
- Seedling Planting
- Drill Seeding
- Fires 2000-2017
- Four Rivers Plan Boundary
- Interstate/Highway
- County Boundary
- River or Stream
- BLM Managed Land
- Lake or Reservoir

Map 3-8. Visual Resource Inventory



Visual Resource Inventory

- Class I
- Class II
- Class III
- Class IV
- Four Rivers Plan Boundary
- County Boundary
- BLM Managed Land
- Interstate/Highway
- River or Stream
- Lake or Reservoir

N W E S

10 0 10 20 Miles

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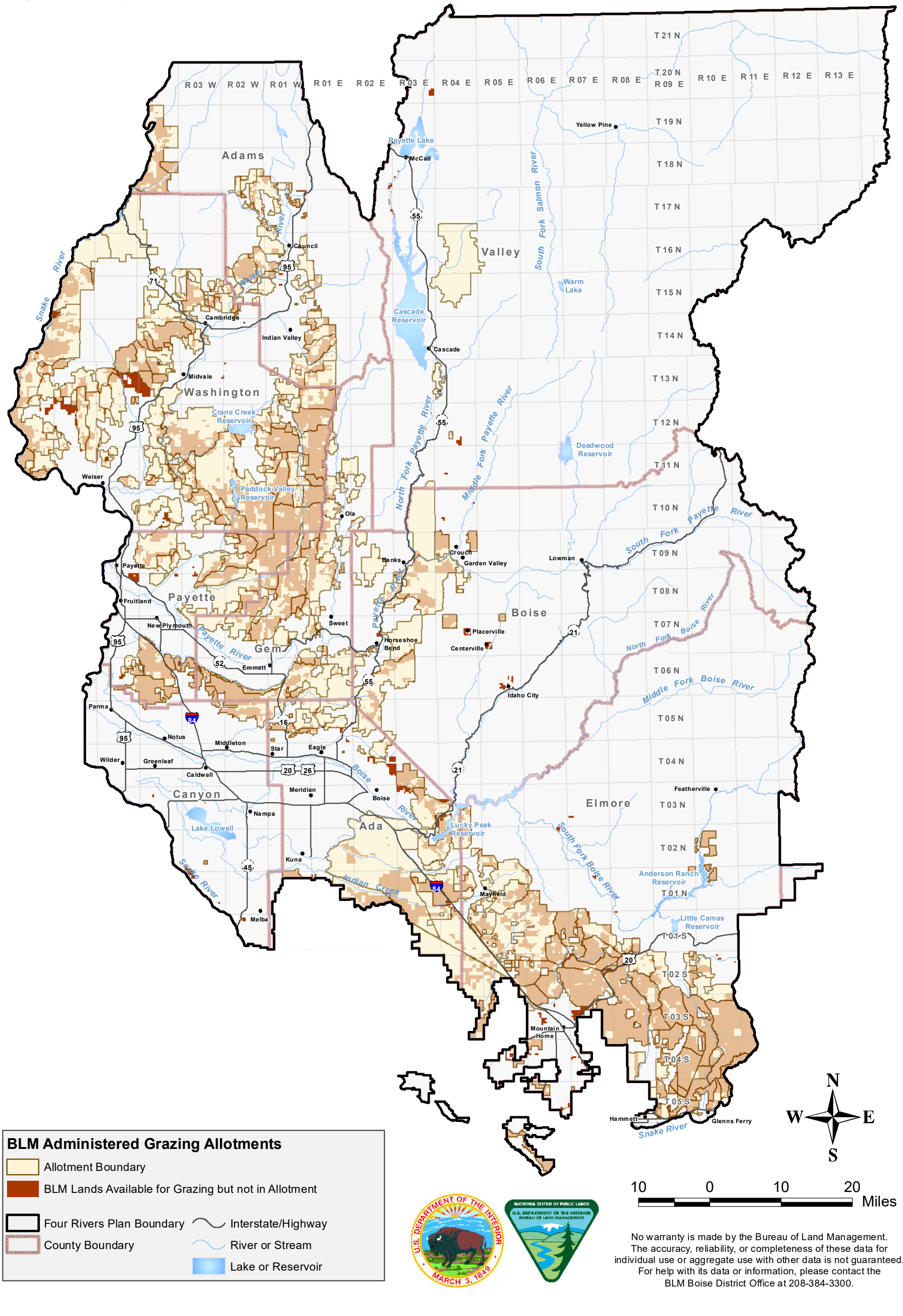
Map 3-9. Grazing Allotments



BLM Administered Grazing Allotments

- Allotment Boundary
- BLM Lands Available for Grazing but not in Allotment
- Four Rivers Plan Boundary
- County Boundary
- Interstate/Highway
- River or Stream
- Lake or Reservoir

N W E S

10 0 10 20 Miles

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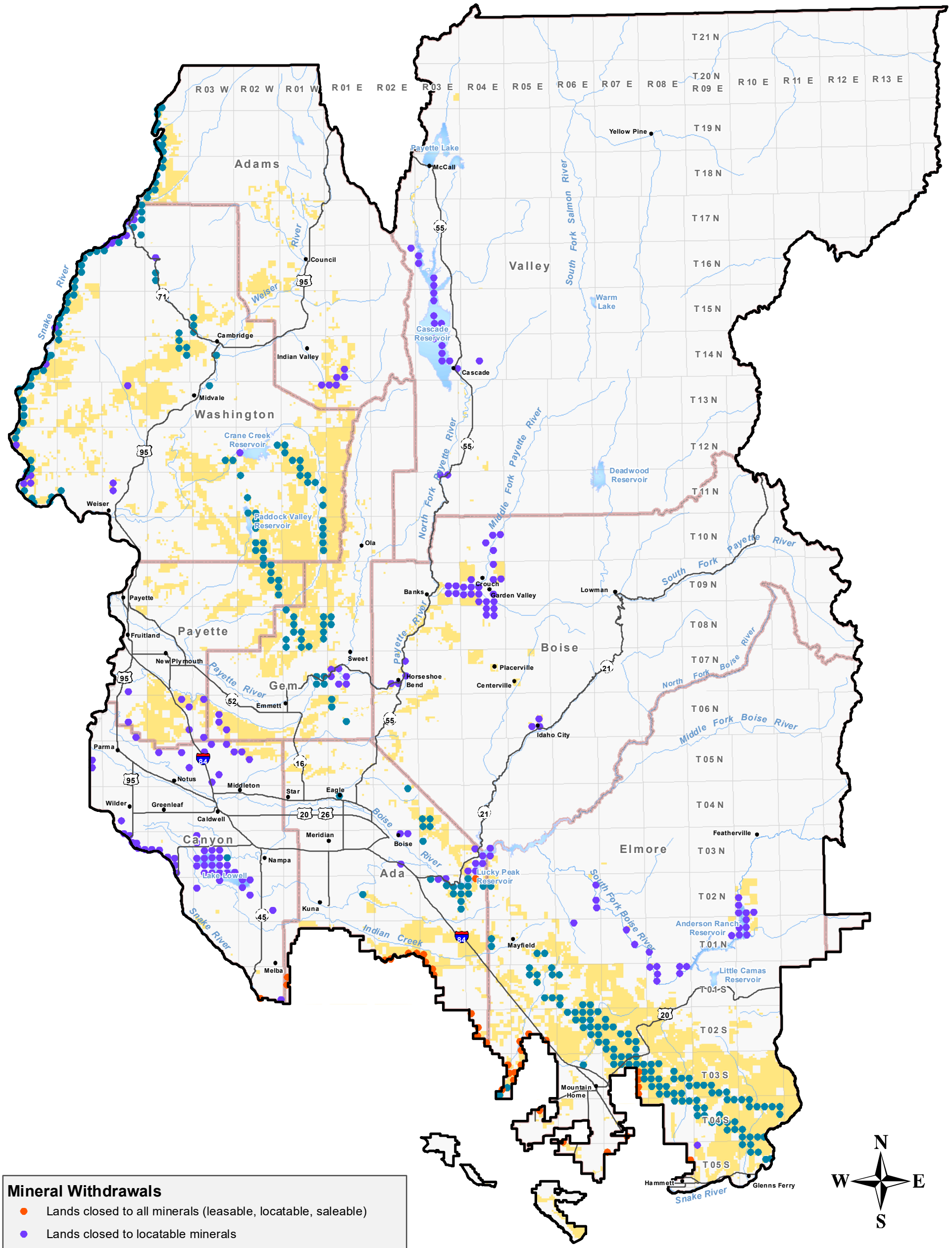
Map 3-10. Mineral Withdrawals



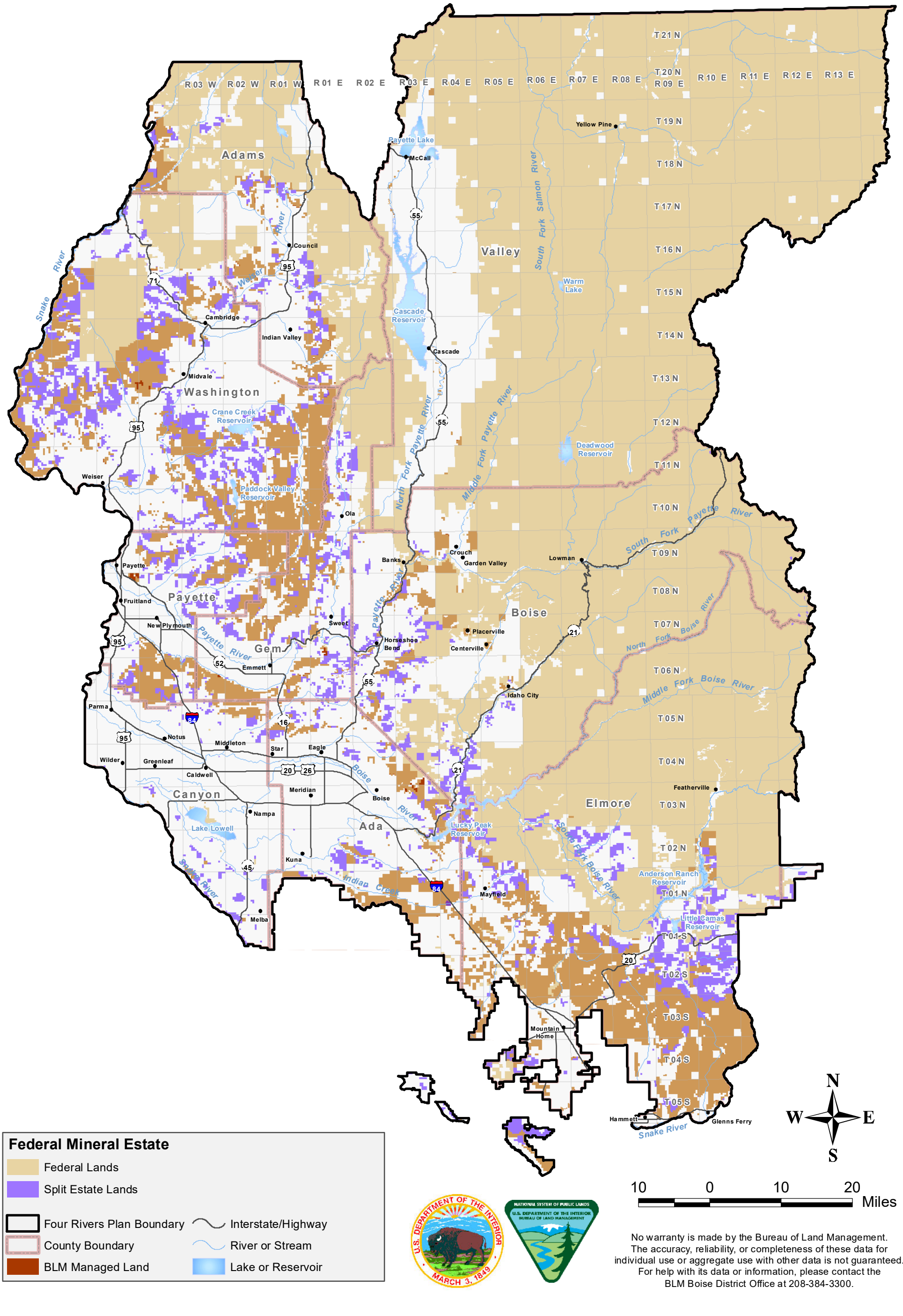
Mineral Withdrawals

- Lands closed to all minerals (leasable, locatable, saleable)
- Lands closed to locatable minerals
- Lands closed to saleable minerals

- Four Rivers Plan Boundary
- County Boundary
- BLM Managed Land
- Interstate/Highway
- River or Stream
- Lake or Reservoir

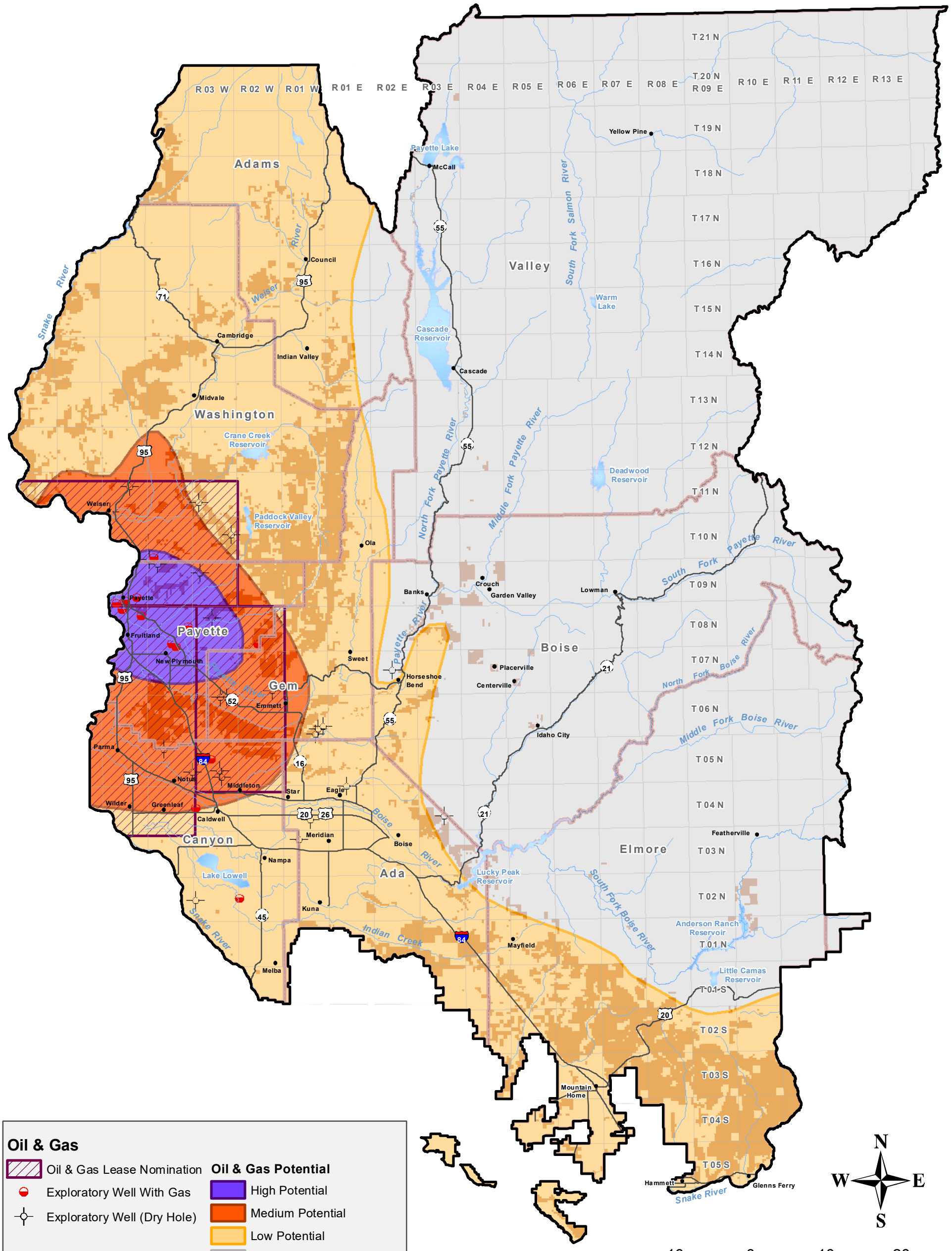
No warranty is made by the Bureau of Land Management. The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed. For help with its data or information, please contact the BLM Boise District Office at 208-384-3300.

Map 3-11. Mineral Estate



No warranty is made by the Bureau of Land Management. The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed. For help with its data or information, please contact the BLM Boise District Office at 208-384-3300.

Map 3-12. Oil and Gas



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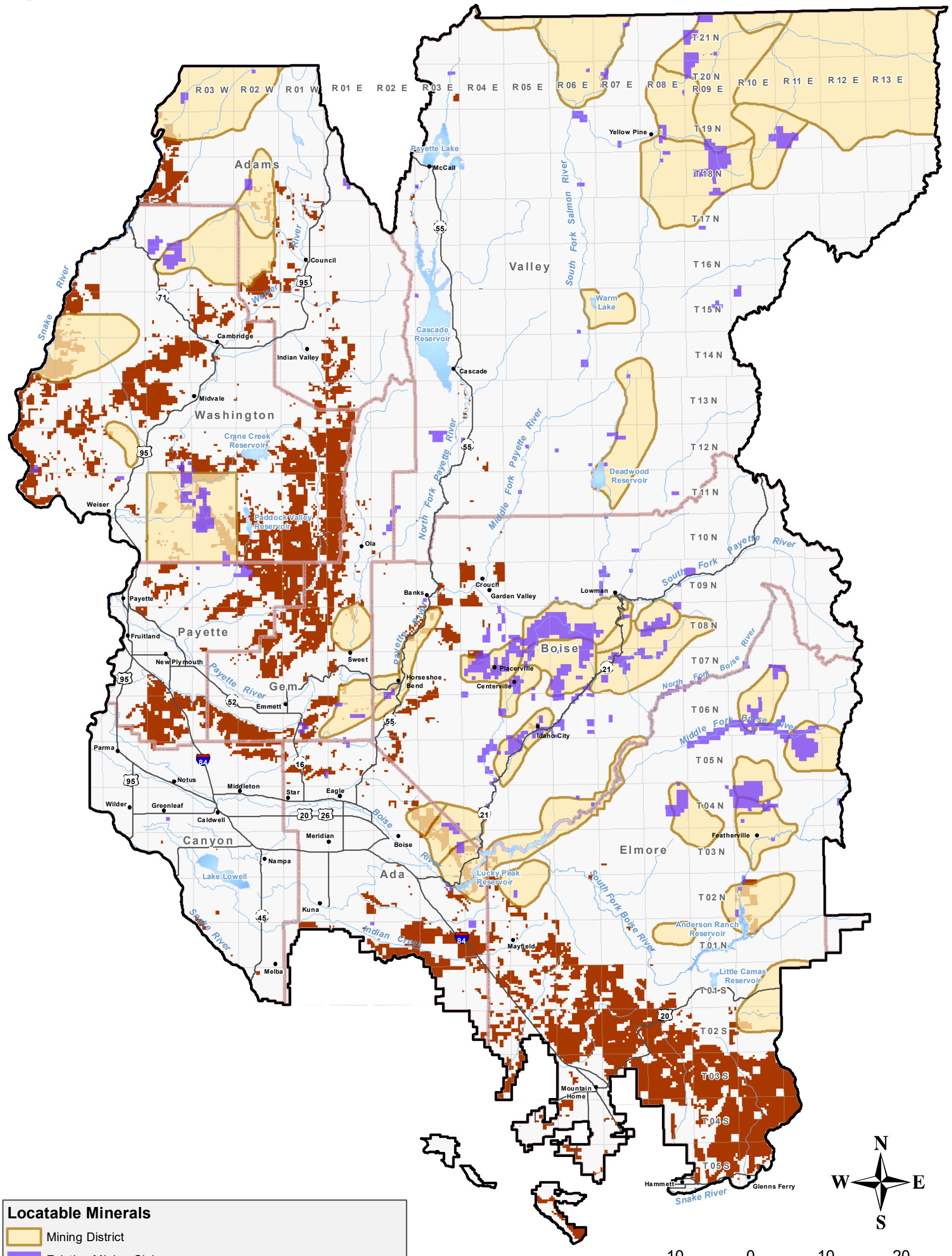
Map 3-13. Locatable Minerals



Locatable Minerals

- Mining District
- Existing Mining Claims
- Four Rivers Plan Boundary
- County Boundary
- BLM Managed Land
- Interstate/Highway
- River or Stream
- Lake or Reservoir

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Map 3-14. Existing Special Designations